UNITED STATES
AIR FORCE

OCCUPATIONAL SURVEY REPORT

IMAGERY PRODUCTION

AFSC 233X0
(PROJECTED AFSC 3V1X1)

AFPT 90-233-883

OCTOBER 1993

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
1550 5th STREET EAST
RANDOLPH AFB, TEXAS 78150-4449

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PREFACE

This report presents the results of an Air Force occupational survey of the AFSC 233X0, Imagery Production, career ladder (projected to become AFSC 3V1X1 on 31 October 1993). Authority for conducting occupational surveys is contained in AFR 35-2. Computer products used in this report are available for use by operations and training officials.

Chief Master Sergeant Tony O'Flaherty, Inventory Development Specialist, developed the survey instrument; Mr James B. Keeth, Occupational Analyst, analyzed the data and wrote the final report. Mr Wayne Fruge provided computer programming support, and Mr Richard G. Ramos provided administrative support. Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, USAF Occupational Measurement Squadron, reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the USAF Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB Texas, 78150-4449 (DSN 487-6623).

JAMES L. ANTENEN, Lt Col, USAF
Commander
USAF Occupational Measurement
Squadron

JOSEPH S. TARTELL
Chief, Occupational Analysis Flight
USAF Occupational Measurement
Squadron

SUMMARY OF RESULTS

1. *Survey Coverage*: The AFSC 233X0, Imagery Production career ladder (AFSC 3V1X1 as of 31 October 1993) was surveyed to obtain current job and task data. This is the first Occupational Survey Report (OSR) conducted on this career ladder since AFSs 233X0 and 233X1 were combined into a single AFS 31 October 1984. Survey results are based on data collected from 397 AFSC 233X0 personnel. This represents 66 percent of the total assigned population.

2. *Specialty Jobs*: Structure analysis of the AFSC 233X0 data reflects a diverse job structure, with 10 jobs identified. Forty percent of the survey sample group into one core job of Continuous Black and White (BW) Photoprocessing. Other jobs identified include Continuous Color Photoprocessing, Manual BW Printing, Continuous BW Printing, Manual Color Printing, BW Quality Control, Chemical Analysis, Relocatable Photo Facility, Tech School Instructor, and Supervisor and Manager. Job incumbents basically focus their work around either photoprocessing or printing duties, but not both. In addition, they are further distinguishable by the method typically used to perform these functions (manual or continuous). Also, most are involved with BW materials, with smaller percentages performing jobs involving color printing or photoprocessing.

3. *Career Ladder Progression*: Normal career ladder progression within the AFSC 233X0 career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving continuous BW photoprocessing or printing. At the 5-skill level, a sharp drop in BW printing is noted and a slight shift towards color photoprocessing and printing is seen. However, most 5-skill levels are still heavily involved with continuous BW photoprocessing. The jobs of 7-skill level personnel shift toward more supervisory work, although they are still involved with continuous BW photoprocessing to some degree. The 9-skill level personnel are primarily the managers of the career ladder, with very little technical work noted. Specialty descriptions in AFR 39-1 (soon to be changed to AFI 36-2105) provide a broad and accurate overview of tasks and duties performed within the career ladder.

4. *Training Analysis*: Fifty percent of all first enlistment personnel group into the Continuous BW Photoprocessing job. Another 10 percent group in the Manual BW Printing job. Only 8 percent are in the Continuous Color Photoprocessing job. As to training documents (Specialty Training Standard (STS) and basic course Plan of Instruction (POI)), a lack of support was found for a large portion of both due to the wide diversity and variety of jobs within the career ladder. An alternative approach was used, looking at job data rather than standard criterion groups, to ensure that job-specific areas were adequately covered. Several areas should be reviewed by subject-matter experts (SMEs) for possible deletion from both documents due to low percent members performing in both the standard criterion groups and the job groups.

5. *Job Satisfaction Analysis*: In general, job satisfaction among most AFSC 233X0 personnel is positive, although somewhat low. No serious satisfaction problems were noted.

Personnel working in the BW Quality Control, Continuous BW Photoprocessing, and Continuous Color Photoprocessing jobs have the lowest job satisfaction of any jobs identified.

6. *Implications*: The merging of AFSCs 233X0 and 233X1 in 1984 appears well supported by OSR data. Job structure analysis identified no major problems with the merger. The current AFSC 233X0 career ladder structure reflects a great deal of diversity within the career ladder. Most of this is the result of a wide variety of jobs being performed by career ladder incumbents, including the photoprocessing or printing of BW or color materials, either manually or by continuous methods, editing and titling imagery, maintaining quality control, mixing chemicals, and performing chemical analyses. Overall job progression is normal, and AFR 39-1 Specialty Descriptions broadly describe the jobs and tasks being performed. Job satisfaction is generally positive, but some low job satisfaction areas are noted. A thorough review of the STS and POI is highly recommended due to the wide diversity of jobs performed. Several STS paragraphs may need to be deleted due to low percent members performing related tasks, and several areas currently taught in the basic 3-skill level course need to be reviewed for deletion due to the same problem. Several tables regarding technical tasks performed by 7-skill level personnel are presented to help career ladder training personnel develop a 7-skill level course.

OCCUPATIONAL SURVEY REPORT
IMAGERY PRODUCTION CAREER LADDER
(AFSC 233X0)
(PROJECTED AFSC 3V1X1)

INTRODUCTION

This is a report of an occupational survey of the Imagery Production career ladder conducted by the Occupational Analysis Flight, USAF Occupational Measurement Squadron. The survey was requested by HQ ATC/TTOI to obtain current job and task data. This is the first time this AFSC has been surveyed since the merger of AFSs 233X0, Continuous Photoprocessing, and 233X1, Photoprocessing Control, in October of 1984. The last occupational survey of AFSCs 233X0 and 233X1 was published in June 1982.

Background

As described in the AFR 39-1 Specialty Descriptions for AFSC 233X0, 3-, 5-, and 7-skill level career ladder members are responsible for: operating high capacity or high definition imagery processing, duplication, printing, finishing, quality assurance, and other equipment associated with reconnaissance, mapping, mobile, or special mission imagery production facilities. They perform imagery production functions associated with aerial and motion picture imagery, perform imagery tests and analyses, certify laboratory equipment and processes, and maintain imagery standards and procedures by manual or computerized methods. They operate BW and color imagery processing equipment, as well as manual, semiautomatic, and automatic imagery duplication equipment. They also edit, title, and assemble imagery materials. The 9-skill level members superintend production, quality assurance, and administrative functions of reconnaissance, mapping, mobile, or special mission imagery production facilities engaged in high definition or high capacity imagery processing, printing, and finishing.

Initial 3-skill level training for AFSC 233X0 personnel is currently provided through a 43-day triservice course (G3ABR23330) at Lowry AFB CO. The course covers such topics as: photographic fundamentals and principles; chemicals and certification; continuous processing methods; editing reconnaissance imagery; manual printing methods and reproduction photography; continuous printing methods and tone reproduction; and color theory, chemistry, and processing. In May 1993, the school was realigned from under ATC and placed under control of the Armed Forces Information Services. And with the scheduled closing of Lowry AFB in 1994, the photoprocessing school will move to Pensacola FL in late 1993 for an indeterminate period of time until facilities are built at Ft Meade MD to accommodate the school permanently.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-233-883, dated August 1991. The Inventory Developer prepared a tentative task list by reviewing pertinent career ladder publications and directives and the previous job inventory and OSR. This task list was further refined and validated through personal interviews with subject-matter experts (SMEs) at operational bases and installations, plus the technical training center.

The resulting job inventory contained a comprehensive listing of 655 tasks grouped under 20 duty headings, with a background section requesting such information as grade, job title, time in present job, time in service, job satisfaction, duties performed, type of organization to which assigned, type method used to perform quality control functions, still photography (exposing film) tasks performed, and equipment operated or used in present assignment.

Survey Administration

Military Personnel Flights at operational bases worldwide administered the inventory to 502 DAFSC 233X0 personnel holding a 3-, 5-, 7-, or 9-skill level. Personnel excluded from taking the survey included the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Armstrong Laboratory, Human Resources Directorate.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in the member's current job. After checking all tasks performed, each individual then rated each task on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of the member's time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

The final AFSC 233X0 survey sample includes responses from 397 job incumbents. Table 1 reflects the paygrade distribution of the final sample, as compared to the assigned population, as of October 1991. The 397 respondents in the final sample represent 66 percent of the assigned active duty AFSC 233X0 personnel. As shown, the survey sample accurately reflects the overall AFSC 233X0 population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 233X0 personnel (generally E-6 or E-7 technicians) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the job inventories. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD). Each individual completing a TD booklet was asked to rate all inventory tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task. Difficulty is defined as the length of time required by the average incumbent to learn to do the task. Task difficulty data were independently collected from 43 experienced 7-skill level personnel stationed worldwide. Interrater reliability was calculated and found acceptable. Ratings were standardized so tasks have an average difficulty rating of 5.00, with a standard deviation of 1.00. The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis (TE). Individuals completing TE booklets were asked to rate tasks on a 10-point scale from no training required to extremely high amount of training emphasis. Training emphasis is a rating of which tasks require emphasis in structured training for first-enlistment personnel. Structured training is defined as training provided by resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal on-the-job training (OJT), or any other organized training method. TE data were independently collected from 37 experienced 7-skill level personnel stationed worldwide. As with TD ratings, the interrater reliability was computed and found to be acceptable, indicating there was sufficient agreement among raters as to which tasks require some form of structured training. In this specialty, tasks rated high in training emphasis have ratings of 4.69 and above, with an average rating of 3.15. As was discussed in the TD section above, TE data may also be used to rank order tasks, indicating those tasks which senior NCOs in the field consider the most important for first-enlistment airmen to be trained to perform.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide good insight into first-enlistment personnel training requirements.

TABLE 1

PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 TO E-3	17	14
E-4	34	34
E-5	25	30
E-6	12	13
E-7	9	6
E-8	2	2
E-9	*	1

TOTAL ASSIGNED: 600
TOTAL SURVEYED: 502
TOTAL IN SAMPLE: 397
PERCENT OF ASSIGNED IN SAMPLE: 66%
PERCENT OF SURVEYED IN SAMPLE: 79%

* As of October 1991

Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS
(Career Ladder Structure)

Each USAF Occupational Analysis begins with an examination of the career ladder structure. The structure of jobs within the Imagery Production career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a *job*. An automated job clustering program organizes individual jobs into similar units of work. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program system for job analysis. Each individual job description (all the tasks performed by that individual and the relative amount of time spent on those tasks) in the sample is compared to every other job description in terms of tasks performed and the relative amount of time spent on each task in the job inventory. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the system adds new members to initial groups, or forms new groups based on the similarity of tasks performed and similar time spent ratings in the individual job descriptions.

When there is a substantial degree of similarity between jobs, they are grouped together and identified as a *cluster*. Specialized jobs too dissimilar to fit within a cluster are labeled as *independent jobs*. The job structure resulting from this grouping process (the various jobs within the career ladder) can be used to evaluate the accuracy of career ladder documents (AFR 39-1 Specialty Descriptions and the STS) and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

On the basis of the similarity of tasks performed and the amount of time spent performing each task, 10 jobs were identified within the AFSC 233X0 survey sample. A listing of these jobs is provided below and illustrated in Figure 1. The stage (ST) number shown beside each title references computer-generated information; the letter "N" stands for the number of personnel in each group.

I. Continuous Black and White (BW) Photoprocessing (STG043, N=157)
II. Continuous Color Photoprocessing (STG038, N=41)
III. Manual Black and White (BW) Printing (STG052, N=26)

AFSC 233X0 CAREER LADDER JOBS
(N=397)

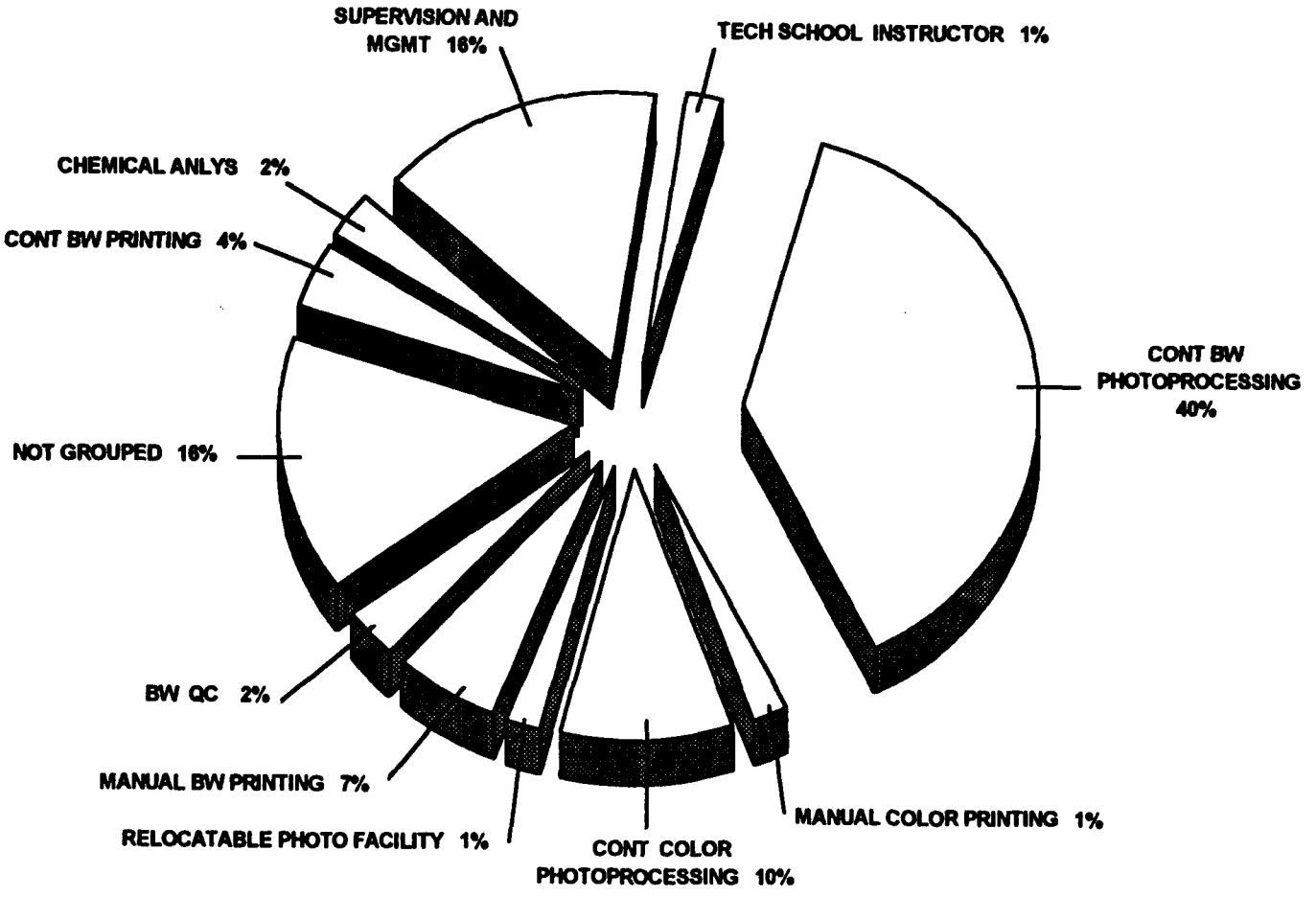

FIGURE 1

IV. Continuous Black and White (BW) Printing (STG094, N=14)
V. Manual Color Printing (STG099, N=6)
VI. Black and White (BW) Quality Control (STG076, N=9)
VII. Chemical Analysis (STG111, N=9)
VIII. Relocatable Photo Facility (STG070, N=5)
IX. Tech School Instruction (STG109, N=4)
X. Supervision and Management (STG033, N=63)

The respondents forming these groups account for 84 percent of the survey sample. The remaining 16 percent are performing tasks or a series of tasks which do not group with any of the defined jobs. Examples of job titles for these people include Career Development Course writer, unit training manager, facility manager, production control specialist, photographer, and customer service representative.

Group Descriptions

The following paragraphs contain brief descriptions of the 10 jobs identified through the career ladder structure analysis. Also presented are two tables which reflect (1) time spent on duties and (2) selected background data for each group. Table 2 presents the relative time spent by respondents in each job across each duty area listed in the job inventory. Table 3 displays selected background information, such as DAFSC distributions across each group, average months in service (i.e., Total Active Federal Military Service (TAFMS)), average number of tasks performed, and type of organization assigned. Also included is Appendix A at the back of this OSR, which lists representative tasks performed by members of each group.

I. CONTINUOUS BLACK AND WHITE (BW) PHOTOPROCESSING (STG043, N=157). This job involves performing photoprocessing of BW film by continuous means. It represents the core job of the career ladder in that 40 percent of career ladder personnel fall into this job. As measured by the average number of tasks performed by incumbents, this is the broadest job in the career ladder, with incumbents performing an average of 106 tasks. Forty-one percent of their relative job time is devoted to processing BW materials, primarily using continuous processing techniques. Another 12 percent is spent maintaining quality control. Examples of tasks performed include:

fill BW processor chemical tanks with BW chemistry
drain or refill BW processor washtanks
perform BW processor shutdown procedures
set or maintain BW processor transport speeds
clean BW processor tanks
clean BW processor rollers
set or maintain BW processor chemistry temperatures

TABLE 2

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 233X0 JOB GROUPS

	DUTIES	CONTINUOUS BW PHOTOPROCESS (STG043)	CONTINUOUS COLOR PHOTOPROCESS (STG038)	MANUAL BW PRINTING (STG052)	CONTINUOUS BW PRINTING (STG094)	MANUAL COLOR PRINTING (STG099)
A	ORGANIZING AND PLANNING	2	3	3	4	2
B	DIRECTING AND IMPLEMENTING	2	3	2	4	4
C	INSPECTING AND EVALUATING	2	3	2	4	1
D	TRAINING	2	2	1	3	2
E	PERFORMING PHOTOPROCESSING, ADMINISTRATIVE, AND PRODUCTION CONTROL FUNCTIONS	2	3	3	4	2
F	MAINTAINING RELOCATABLE PHOTOGRAPHIC FACILITIES	4	*	*	-	*
G	OPERATING COPY CAMERAS	1	5	5	-	*
H	PROCESSING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	41	1	5	*	-
I	PRINTING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	6	*	2	51	-
J	PROCESSING BLACK AND WHITE (BW) FILM MANUALLY	8	*	7	-	4

- Denotes Duty Not Performed
* Denotes Less than 1 percent
** Columns may not add exactly to 100 percent due to rounding

TABLE 2 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 233X0 JOB GROUPS

	DUTIES	CONTINUOUS BW PHOTOPROCESS (STG043)	CONTINUOUS COLOR PHOTOPROCESS (STG038)	MANUAL BW PRINTING (STG052)	CONTINUOUS BW PRINTING (STG094)	MANUAL COLOR PRINTING (STG099)
K	EXPOSING, PROCESSING, AND FINISHING BLACK AND WHITE (BW) PRINTS MANUALLY	8	*	60	1	5
L	PROCESSING COLOR MATERIALS BY CONTINUOUS METHODS	2	42	1	-	2
M	PRINTING COLOR MATERIALS BY CONTINUOUS METHODS	*	2	-	-	-
N	PROCESSING COLOR FILM MANUALLY	*	*	*	-	15
O	EXPOSING, PROCESSING, AND FINISHING COLOR PRINTS MANUALLY	*	5	2	-	40
P	MAINTAINING QUALITY CONTROL	12	17	2	-	7
Q	EDITING AND CLEANING IMAGERY	2	1	*	23	*
R	TITLING IMAGERY	3	*	-	1	-
S	PRODUCING CHEMICAL MIXES AND PERFORMING CHEMICAL ANALYSIS	7	11	4	-	14
T	CONTROLLING CLEANROOM AND ENVIRONMENT	1	*	*	5	-

- Denotes Duty Not Performed
* Denotes Less than 1 percent
** Columns may not add exactly to 100 percent due to rounding

TABLE 2 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 233X0 JOB GROUPS

DUTIES		BW QUALITY CONTROL (STG076)	CHEMICAL ANALYSIS (STG111)	RELOCATABLE PHOTO FACILITY (STG070)	TECH SCHOOL INSTR (STG109)	SUPVR/ MGMT (STG033)
A	ORGANIZING AND PLANNING	*	3	2	10	21
B	DIRECTING AND IMPLEMENTING	*	4	2	20	18
C	INSPECTING AND EVALUATING	*	1	1	7	21
D	TRAINING	*	1	4	60	10
E	PERFORMING PHOTOPROCESSING, ADMINISTRATIVE, AND PRODUCTION CONTROL FUNCTIONS	1	1	2	3	7
F	MAINTAINING RELOCATABLE PHOTOGRAPHIC FACILITIES	16	*	36	-	1
G	OPERATING COPY CAMERAS	-	1	-	-	1
H	PROCESSING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	4	5	4	-	4
I	PRINTING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	1	-	13	-	1
J	PROCESSING BLACK AND WHITE (BW) FILM MANUALLY	-	*	-	-	*
K	EXPOSING, PROCESSING, AND FINISHING BLACK AND WHITE (BW) PRINTS MANUALLY	*	*	20	-	3

- Denotes Duty Not Performed
* Denotes Less than 1 percent
** Columns may not add exactly to 100 percent due to rounding

TABLE 2 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 233X0 JOB GROUPS

DUTIES		BW QUALITY CONTROL (STG076)	CHEMICAL ANALYSIS (STG111)	RELOCATABLE PHOTO FACILITY (STG070)	TECH SCHOOL INSTR (STG109)	SUPVR/ MGMT (STG033)
L	PROCESSING COLOR MATERIALS BY CONTINUOUS METHODS	-	-	-	-	1
M	PRINTING COLOR MATERIALS BY CONTINUOUS METHODS	-	-	-	-	*
N	PROCESSING COLOR FILM MANUALLY	-	-	-	-	*
O	EXPOSING, PROCESSING, AND FINISHING COLOR PRINTS MANUALLY	-	-	-	-	*
P	MAINTAINING QUALITY CONTROL	68	33	3	-	7
Q	EDITING AND CLEANING IMAGERY	2	*	1	-	1
R	TITLING IMAGERY	*	1	13	-	*
S	PRODUCING CHEMICAL MIXES AND PERFORMING CHEMICAL ANALYSIS	3	45	-	-	2
T	CONTROLLING CLEANROOM AND ENVIRONMENT	2	4	*	-	1

- Denotes Duty Not Performed
* Denotes Less than 1 percent
** Columns may not add exactly to 100 percent due to rounding

TABLE 3

SELECTED BACKGROUND DATA FOR AFSC 233X0 CAREER LADDER JOBS

	CONTINUOUS BW PHOTOPROCESS (STG043)	CONTINUOUS COLOR PHOTOPROCESS (STG038)	MANUAL BW PRINTING (STG052)	CONTINUOUS BW PRINTING (STG094)	MANUAL COLOR PRINTING (STG099)
NUMBER IN GROUP	157	41	26	14	6
PERCENT OF SAMPLE	40%	10%	7%	4%	1%
PERCENT IN CONUS	63%	85%	69%	93%	83%
DAFSC DISTRIBUTION					
23330	10%	0%	8%	29%	0%
23350	66%	66%	81%	36%	83%
23370	24%	32%	12%	36%	17%
23390	0%	2%	0%	0%	0%
PREDOMINANT PAYGRADE(S)	E-4, E-5	E-4, E-5	E-4, E-5	E-3, E-4, E-5	E-4, E-5
AVERAGE MONTHS IN CAREER FIELD	74	101	62	73	87
AVERAGE MONTHS IN SERVICE (TAFMS)	79	113	71	88	103
PERCENT IN FIRST ENLISTMENT	0%	19%	39%	36%	0%
AVERAGE NUMBER OF TASKS PERFORMED	106	91	46	37	64
PERCENT SUPERVISING	42%	46%	19%	43%	50%
TYPE ORGANIZATION ASSIGNED					
Armament Recording Lab	6%	34%	0%	0%	0%
Base Support Photo Lab	1%	2%	12%	0%	0%
Defense Audiovisual Agency	0%	2%	0%	0%	0%
Motion Picture Processing Lab	0%	20%	0%	0%	0%
Photo Processing Interpretation Lab	8%	0%	0%	0%	0%
Recon Tech Squadron or Group	55%	17%	65%	86%	67%
Tactical Recon Squadron	13%	2%	8%	0%	0%
Tech Training Center	0%	0%	4%	0%	17%
Other	16%	22%	12%	14%	16%

TABLE 3 (CONTINUED)

SELECTED BACKGROUND DATA FOR AFSC 233X0 CAREER LADDER JOBS

	BW QUALITY CONTROL (STG076)	CHEMICAL ANALYSIS (STG111)	RELOCATABLE PHOTO FACILITY (STG070)	TECH SCHOOL INSTRUCTOR (STG109)	SUPVR/ MGMT (STG033)
NUMBER IN GROUP	9	9	5	4	63
PERCENT OF SAMPLE	2%	2%	1%	1%	16%
PERCENT IN CONUS	89%	100%	100%	100%	100%
DAFSC DISTRIBUTION					
23330	11%	22%	0%	0%	0%
23350	89%	67%	80%	75%	11%
23370	0%	11%	20%	25%	76%
23390	0%	0%	0%	0%	13%
PREDOMINANT PAYGRADE(S)	E-4	E-4	E-4, E-5	E-5	E-6, E-7
AVERAGE MONTHS IN CAREER FIELD	48	75	107	90	186
AVERAGE MONTHS IN SERVICE (TAFMS)	53	77	107	94	196
PERCENT IN FIRST ENLISTMENT	55%	22%	0%	0%	2%
AVERAGE NUMBER OF TASKS PERFORMED	67	67	91	21	88
PERCENT SUPERVISING	0%	0%	60%	0%	89%
TYPE ORGANIZATION ASSIGNED					
Armament Recording Lab	0%	0%	0%	0%	10%
Base Support Photo Lab	0%	11%	0%	0%	3%
Defense Audiovisual Agency	0%	0%	0%	0%	0%
Motion Picture Processing Lab	0%	11%	0%	0%	0%
Photo Processing Interpretation Lab	56%	0%	100%	0%	6%
Recon Tech Squadron or Group	22%	33%	0%	0%	49%
Tactical Recon Squadron	0%	0%	0%	0%	3%
Tech Training Center	0%	0%	0%	100%	2%
Other	22%	44%	0%	0%	27%

perform BW processor startup procedures
drain BW processor chemical tanks
clean BW processing room
set or maintain BW chemistry replenisher rates

Thirty-one percent of these incumbents are in their first enlistment, with 66 percent holding a 5-skill level. Average TAFMS is 79 months, and the predominant paygrades of the job incumbents are E-4 and E-5. Fifty-five percent indicate they are assigned to a reconnaissance technical squadron or group.

II. CONTINUOUS COLOR PHOTOPROCESSING (STG038, N=41). This job primarily involves the photoprocessing of color materials by continuous methods. However, unlike the first job above, only 10 percent of career ladder personnel work in this job. Incumbents average slightly fewer tasks (91) than the previous job, and 42 percent of their job time involves processing color photographs and materials using continuous processing procedures. Maintaining quality control takes 17 percent of their job time. An additional 11 percent involves chemical mixing and analysis tasks that are more characteristic of color processing than BW processing. Commonly performed tasks include:

fill color processor chemical tanks with color chemistry
process color film control strips
drain color processor chemical tanks
perform color processor shutdown procedures
set or maintain color processor water temperature and flow rates
perform color processor startup procedures
set or maintain color chemistry replenisher rates
obtain color certification materials
clean color processor rooms or surveillance, detection, or set or maintain temperature of color chemistry

Personnel in this job average 113 months TAFMS, with 19 percent in their first enlistment. Sixty-six percent hold the 5-skill level. As with the first job above, the predominant paygrades of job incumbents are E-4 and E-5. Thirty-four percent of these personnel work in an armament recording lab, 20 percent work in a motion picture processing lab, and 17 percent work in a reconnaissance technical squadron or group.

III. MANUAL BLACK AND WHITE (BW) PRINTING (STG052, N=26). This job primarily involves the exposing, processing, and finishing of BW prints manually. Incumbents spend 67 percent of their job time manually exposing, processing, and finishing BW prints and film. Unlike the first two jobs, time spent in maintaining quality control (see Table 2, Duty P) is

considerably less. Their job is narrower than the 2 previous jobs, with incumbents performing an average of only 46 tasks. Commonly performed tasks include:

compose or focus BW prints using projection printers
expose BW prints using projection printers
select lens for BW projection printers
inspect BW prints after processing
adjust easels for proper size prints
insert BW negatives in manual projection printers
sort BW prints by work order
trim BW prints
process BW prints using automatic print processors
construct BW dodging devices
position condensers for BW projection printers
add chemical to BW print processors
expose BW prints using contact printers
place BW negatives on manual contact printers

Eighty-one percent of those holding this job have a 5-skill level and average 71 months TAFMS. Thirty-nine percent are in their first enlistment. Sixty-five percent of the job incumbents indicate they work in a reconnaissance technical squadron or group.

IV. CONTINUOUS BLACK AND WHITE (BW) PRINTING (STG094, N=14). Personnel in this job primarily print BW materials by continuous methods. In addition, they spend the most time of any job editing and cleaning imagery (23 percent). Incumbents perform an average of only 37 tasks, suggesting about the same breadth of responsibilities for this job as was seen in the Manual BW Printing job. Commonly performed tasks include:

print BW duplicates using continuous printers
thread BW materials on continuous printers
rewind BW negative or positive film using editing tables
rewind BW negative or positive film on continuous printers
clean BW continuous printers
inspect BW continuous printers for tension, tracking, or physical defects
certify BW continuous printers sensitometrically
adjust lamp intensities on BW continuous printers
print BW control flash film
clean aerial film
splice head or tail friskets or leaders onto original film

Personnel performing this job are almost evenly split between having a 3-, 5-, or 7-skill level (see Table 3). Thirty-six percent are in their first enlistment, and personnel average 88 months time in service. Eighty-six percent of these personnel indicate they work in a reconnaissance technical squadron or group.

V. MANUAL COLOR PRINTING (STG099, N=6). This small job primarily involves exposing, processing, and finishing color prints and film manually (55 percent of their job time). As was seen with the Continuous Color Photoprocessing job (II above), a sizeable segment of job time is devoted to chemical mixing and analysis (14 percent). This job is broader than the Continuous Color Photoprocessing job, with incumbents averaging nearly twice the number of tasks (64 versus 37). Commonly performed tasks include:

compose, focus, or expose color prints
evaluate manually produced color prints
trim color prints
determine exposure for manual color prints
clean color manual processing laboratory equipment
control color film solution temperature during manual processing
process color film manually
load color film into racks, reels, or hangers for manual processing
perform preoperation inspections of manual color projection printers
dry manually processed color films
correct color prints produced manually using color correction filters
evaluate manually produced color test exposures
program color analyzers for manual printing

Five of the six personnel hold a 5-skill level and the average time in service for all group members is 103 months. None are in their first enlistment. Four members indicate they work in a reconnaissance technical squadron or group.

VI. BLACK AND WHITE (BW) QUALITY CONTROL (STG076, N=9). This somewhat specialized job primarily involves maintaining quality control (68 percent of job time), the highest percentage of any job identified. In addition, 16 percent of the job time is spent maintaining relocatable photographic facilities, second highest of any job identified (see Table 2). In terms of breadth of responsibilities, the job is comparable to the previous job, with incumbents performing an average of 67 tasks. Commonly performed tasks include:

read densities of sensitometric strips
plot data from sensitometric strips

analyze characteristic curves for gamma measurement
analyze characteristic curves for effect aerial film speed (EAFS)
certify BW film startups
determine film speed from sensitometric strips
record densities on film
determine gamma from sensitometric strips
plot data on process control charts
evaluate sensitometric strips for exposures
determine solution pH using pH meters
determine specific gravity of solutions
measure machine speed with tachometers
enter data on process control charts

Eight of the personnel working in this job hold the 5-skill level, the predominant paygrade is E-4, and most members average 53 months time in service. Five members are in their first enlistment. Five of the nine members indicate they work in a photoprocessing interpretation lab, and two work in a reconnaissance technical squadron or group.

VII. CHEMICAL ANALYSIS (STG111, N=9). This specialized job essentially involves producing chemical mixes and performing chemical analyses in the lab and maintaining quality control (see Table 2). In terms of job breadth, it is comparable to the last 2 jobs discussed, with job incumbents performing an average of 67 tasks. Commonly performed tasks include:

determine solution pH using pH meters
store unmixed chemicals
add chemicals to mix tanks
determine specific gravity of solutions
dispose of empty chemical containers
calculate corrective additions to chemistry
make corrective additions to mixed chemistry
fill chemical mix tanks with water at mix temperatures
remove chemistry samples for certification
measure chemicals by weight
clean and rinse chemical mixing equipment
standardize pH meters
prepare pH meters for operation
transfer certified mixed chemistry to storage tanks

Personnel in this job perform an average of 67 tasks. Six of the nine members hold the 5-skill level. Predominant paygrade of all group members is E-4. Average TAFMS is 77 months. Only two members indicate they are in their first enlistment. As to type organization assigned,

three members indicated they were assigned to a reconnaissance technical squadron or group. Four members indicated "Other."

VIII. RELOCATABLE PHOTO FACILITY (STG070, N=5). This job primarily involves maintaining relocatable photographic facilities; printing BW materials by continuous methods; exposing, processing, and finishing BW prints manually; and titling imagery (see Table 2). All were assigned to Bergstrom AFB TX. Commonly performed tasks include:

certify shelter equipment
secure titlers for transport
set up printers
set up titlers
secure printers for transport
compose or focus BW prints using projection printers
perform processor startup procedures after relocation
remove or install shelter transporters
install shelter passageways after relocation
rewind and return film to cans after titling
adjust titler brackets or spindlers for film widths
secure shelter passageways for transport
fold or unfold shelters
secure shelter water, drain, or air lines

Four of these job incumbents hold the 5-skill level. Average time in service for all group members is 107 months. None are in their first enlistment. All five members indicate they are assigned to a photoprocessing interpretation lab.

IX. TECH SCHOOL INSTRUCTION (STG109, N=4). As the title implies, the primary function of this job is that of instructor at the tech school located at Lowry AFB CO. Sixty percent of the job time is spent in Duty D, Training (see Table 2). Common tasks performed include:

score tests
administer tests
counsel trainees on training progress or programs
maintain training records, charts, or graphs
evaluate training progress of students
prepare lesson plans
conduct resident course classroom training
procure training aids, space, or equipment

write test questions
develop training aids
evaluate training materials

Three of the four personnel in this cluster hold a 5-skill level. None are in their first enlistment. Average time in service for all group members is 94 months, and the predominant paygrade for job incumbents is E-5. All are assigned to the tech training center.

X. SUPERVISION AND MANAGEMENT (STG033, N=63). Personnel in this job perform primarily supervisory and management tasks, spending 60 percent in Duties A (Organizing and Planning), B (Directing and Implementing), and C (Inspecting and Evaluating). Another 10 percent is spent on training (Duty D). Commonly performed tasks include:

counsel personnel on personal or military-related matters
determine work priorities
orient newly assigned personnel
evaluate personnel for compliance with performance standards
write EPRs
establish performance standards for subordinates
assign personnel to duty positions
schedule leaves, passes, or temporary duty
supervise Imagery Production Specialists (AFSC 23350)
assign work to sections
plan work assignments
perform self-inspections

This is the most experienced job group identified, with an average time in service of 196 months and a predominant paygrade of E-6 or E-7. Seventy-six percent have a 7-skill level, with 89 percent indicating they supervise other subordinates. Forty-nine percent say they are assigned to a reconnaissance technical squadron or group, while 27 percent said they are assigned to "Other."

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last AFSC 233X0 OSR published in 1982. As shown in Table 4, most jobs in the current survey were also identified in 1982, indicating that, in general, the specialty has remained somewhat stable over the past 11 years. Members in both studies typically performed a very specialized job by working in one of two major functional areas, either printing or photoprocessing. These incumbents were further distinguishable by method used to perform these functions (manual or continuous).

TABLE 4

COMPARISON OF JOB GROUPS IN CURRENT SURVEY
VS 1982 SURVEY

1993 SURVEY (N=397)	1982 SURVEY (N=510)
Continuous BW Photoprocessing	Continuous BW Photoprocessing
Continuous BW Printing	Continuous BW Printing
Manual BW Printing	Manual BW Printing
Continuous Color Photoprocessing	--
--	Continuous Color and BW Photoprocessing
--	Continuous Color Printing
Manual Color Printing	--
BW Quality Control	Quality Controllers
Chemical Analysis	
Tech School Instructor	Resident Technical School Instructors
Supervisors and Management	Supervisors and Managers
--	OJT NCOICs
Relocatable Photo Facilities	
--	Production Controllers

For the most part, only minor job differences are noted between the two surveys. Relocatable facility functions were performed across several job groups in 1982 and were not identified as a separate job, yet in the 1993 survey, they grouped together into an identifiable and reportable job group. Also, the Production Controllers and OJT NCOIC jobs in the 1982 survey were performed by several job groups in 1993 and did not break out as separate jobs.

Overall, no major problems are noted with the merger of the previous Continuous Photoprocessing and Photoprocessing Control career ladders in 1984. From the standpoint of data gathered during this OSR, the merger appears to be working well; thus, the current structure for AFSC 233X0 is well supported by the survey data.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as Career Field Education and Training Plans, AFR 39-1 Specialty Descriptions, and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 5, while Table 6 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

A typical pattern of progression is noted within the AFSC 233X0 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time on technical tasks involving BW photoprocessing. As career ladder incumbents move up to the 7-skill level, higher percentages work in supervisory-related jobs, but still spend some time processing BW materials and maintaining quality control. At the 9-skill level, most of the time is spent in management jobs, with very little time spent on technical duties (see Table 5).

Skill-Level Descriptions

DAFSC 23330. The 33 airmen in the 3-skill level group, representing 8 percent of the survey sample, spend most of their job time processing and printing BW materials by continuous or manual methods (see Table 6). Forty-eight percent are working in the Continuous BW Photoprocessing job, with 12 percent working in the Continuous BW Printing job (see Table 5).

Table 7 lists representative tasks performed by all 3-skill level job incumbents. Most tasks listed relate to Duty H (Processing BW Materials by Continuous Methods). Obviously, there is a

TABLE 5

DISTRIBUTION OF SKILL-LEVEL MEMBERS
ACROSS CAREER LADDER JOBS
(PERCENT MEMBERS RESPONDING)

JOB		DAFSC 23330 (N=33)	DAFSC 23350 (N=219)	DAFSC 23370 (N=135)	DAFSC 23390 (N=10)
I.	CONTINUOUS BLACK AND WHITE PHOTOPROCESSING	48	47	28	0
II.	CONTINUOUS COLOR PHOTOPROCESSING	0	12	9	0
III.	MANUAL BLACK AND WHITE PRINTING	6	10	2	0
IV.	CONTINUOUS BLACK AND WHITE PRINTING	12	2	4	0
V.	MANUAL COLOR PRINTING	0	2	1	0
VI.	BLACK AND WHITE QUALITY CONTROL	3	4	0	0
VII.	CHEMICAL ANALYSIS	6	3	1	0
VIII.	RELOCATABLE PHOTOGRAPHIC FACILITY	0	2	1	0
IX.	TECH SCHOOL INSTRUCTOR	0	1	1	0
X.	SUPERVISORY AND MANAGEMENT	0	3	35	80
XI.	UNGROUPED	25	14	18	20

TABLE 6

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)**

DUTIES		DAFSC 23330 (N=33)	DAFSC 23350 (N=219)	DAFSC 23370 (N=135)	DAFSC 23390 (N=10)
A	ORGANIZING AND PLANNING	3	3	13	27
B	DIRECTING AND IMPLEMENTING	1	3	12	23
C	INSPECTING AND EVALUATING	3	2	12	27
D	TRAINING	*	3	7	11
E	PERFORMING PHOTOPROCESSING, ADMINISTRATIVE, AND PRODUCTION CONTROL FUNCTIONS	8	4	6	4
F	MAINTAINING RELOCATABLE PHOTOGRAPHIC FACILITIES	*	5	2	*
G	OPERATING COPY CAMERAS	*	2	1	*
H	PROCESSING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	33	21	13	-
I	PRINTING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	11	5	3	-
J	PROCESSING BLACK AND WHITE (BW) FILM MANUALLY	1	1	*	-
K	EXPOSING, PROCESSING, AND FINISHING BLACK AND WHITE (BW) PRINTS MANUALLY	10	12	5	-
L	PROCESSING COLOR MATERIALS BY CONTINUOUS METHODS	1	8	4	3
M	PRINTING COLOR MATERIALS BY CONTINUOUS METHODS	*	*	1	*
N	PROCESSING COLOR FILM MANUALLY	*	*	*	*
O	EXPOSING, PROCESSING, AND FINISHING COLOR PRINTS MANUALLY	-	2	1	*
P	MAINTAINING QUALITY CONTROL	7	14	11	2
Q	EDITING AND CLEANING IMAGERY	8	2	2	-
R	TITLING IMAGERY	1	2	1	-
S	PRODUCING CHEMICAL MIXES AND PERFORMING CHEMICAL ANALYSIS	9	9	4	1
T	CONTROLLING CLEANROOM AND ENVIRONMENT	3	1	1	1

* Denotes less than 1 percent
** Columns do not add exactly to 100 percent due to rounding
\- Denotes duty is not performed

TABLE 7

REPRESENTATIVE TASKS PERFORMED BY
DAFSC 23330 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=33)
H243	Drain or refill BW processor washtanks	55
H242	Drain BW processor chemical tanks	55
H237	Clean BW processor rollers	52
H239	Clean BW processor tanks	52
H267	Set or maintain BW processor transport speeds	52
H251	Perform BW processor shutdown procedures	52
H244	Fill BW processor chemical tanks with BW chemistry	52
H234	Clean BW processing rooms	48
S612	Add chemicals to mix tanks	48
H252	Perform BW processor startup procedures	48
H236	Clean BW processor interiors using system cleaning solutions	45
H229	Certify BW processors chemically	45
H263	Set or maintain BW chemistry replenisher rates	45
H245	Inspect BW processors prior to startup	45
H260	Season BW film processor chemical tanks	45
H259	Remove and clean BW processing racks	42
H262	Set and maintain BW processor water temperature and flow rates	42
H265	Set or maintain BW processor chemistry temperatures	42
H266	Set or maintain BW processor dryer temperature and humidity	42
H233	Change BW processor water filters	42
S645	Wash down walls or floors of chemical mix area	39
H257	Process BW film control strips for machine speed or gamma charts	39
H230	Certify BW processors mechanically	39
H264	Set or maintain BW processor chemical recirculation	39
H254	Position BW processor racks	39
S640	Store mixed chemicals	39
H231	Certify BW processors sensitometrically	39

great deal of diversity among the jobs performed by 3-skill level personnel, as very few members are performing any of the tasks listed (55 percent or less). This finding has major implications for training decisions.

DAFSC 23350. The 219 airmen in the 5-skill level group represent 55 percent of the total survey sample. As with 3-skill level personnel, the largest percentages of these incumbents are working in the Continuous BW Photoprocessing job. However, several shifts in jobs performed are noted. A fairly large decrease is seen in the performance of the Continuous BW Printing job and more color photoprocessing and printing is seen at this skill level (see Table 5). In addition, more time is spent maintaining quality control (see Table 6).

Representative tasks performed by 5-skill level incumbents are listed in Table 8. As with the 3-skill level group, 5-skill level personnel are also quite diversified in their work, as evident by the fact that very few people (55 percent and less) are performing the top tasks. Table 9 reflects those tasks which best differentiate 5-skill level personnel from their 3-skill level counterparts.

DAFSC 23370. Seven-skill level personnel represent 34 percent of the survey sample. Unlike their junior counterparts at the 3- and 5-skill levels, higher percentages of these personnel are working in the Supervisory and Management job (35 percent vs 0 and 3 percent respectively). However, 28 percent of 7-skill level personnel are still working in the Continuous BW Photoprocessing job, 9 percent are working in the Continuous Color Photoprocessing job, and 4 percent are working in the Continuous BW Printing job (see Table 5). Table 10 lists tasks performed by the total 7-skill level sample. Table 11 shows those tasks which best differentiate the 5- and 7-skill levels. As expected, the key difference is a much greater emphasis on supervisory functions at the 7-skill level.

As with the 3- and 5-skill levels, there is still a great deal of diversity found among jobs and tasks performed by 7-skill level personnel. This is evident from the wide variety of jobs 7-skill level personnel are working (see above paragraph). To better illustrate the wide technical diversity among the 7-skill level sample, Tables 12, 13, and 14 are included to show that 7-skill levels who work in the three technically oriented jobs perform very different tasks. This information can be extremely useful to functional managers and training personnel in putting together a new mandatory 7-skill level course required for the AFSC 233X0 specialty.

DAFSC 23390. Nine-skill level personnel spend most of their time on supervisory and management tasks. Commonly performed tasks are presented in Table 15. Table 16 displays those tasks which best differentiate between the 9-skill level and 7-skill level groups. Not surprisingly, the main differences can be seen in the performance of many technical tasks at the 7-skill level and the performance of management tasks at the 9-skill level. In addition, Table 5 reflects that 9-skill level personnel are found primarily in the Supervisory and Management job, with none found in any of the technical jobs identified.

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY
DAFSC 23350 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=219)
S612	Add chemicals to mix tanks	55
S618	Clean and rinse chemical mixing equipment	51
H251	Perform BW processor shutdown procedures	49
H252	Perform BW processor startup procedures	48
H259	Remove and clean BW processing racks	47
H267	Set or maintain BW processor transport speeds	47
H234	Clean BW processing rooms	47
H265	Set or maintain BW processor chemistry temperatures	47
H243	Drain or refill BW processor washtanks	47
H242	Drain BW processor chemical tanks	47
H244	Fill BW processor chemical tanks with BW chemistry	47
H239	Clean BW processor tanks	46
S629	Mix packaged chemicals	45
H237	Clean BW processor rollers	45
H262	Set and maintain BW processor water temperature and flow rates	45
H260	Season BW film processor chemical tanks	45
H263	Set or maintain BW chemistry replenisher rates	44
H236	Clean BW processor interiors using system cleaning solutions	44
H257	Process BW film control strips for machine speed or gamma charts	43
S645	Wash down walls or floors of chemical mix area	43
H245	Inspect BW processors prior to startup	43
S624	Fill chemical mix tanks with water at mix temperature	43
S623	Dispose of empty chemical containers	42
H266	Set or maintain BW processor dryer temperature and humidity	41
H254	Position BWE processor racks	41
H230	Certify BW processors mechanically	40
H229	Certify BW processors chemically	39
H240	Conduct BW film inspections after processing	39
H264	Set or maintain BW processor chemical recirculation	39
H232	Change BW processor chemical filters	38
H231	Certify BW processors sensitometrically	37
S642	Transfer certified mixed chemistry to storage tanks	37
H250	Monitor quality of processed BW materials at processor takeup reels	37
S646	Wash glassware	36
H233	Change BW processor water filters	36
H235	Clean BW processor film dryers	36

TABLE 9

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 23330 AND DAFSC 23350 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		23330 (N=33)	23350 (N=219)	DIFFERENCE
I293	Rewind BW negative or positive film using editing tables	33	19	14
Q571	Clean aerial film	33	19	14
H269	Splice BW control strips to mission film	33	19	14
H249	Make BW running splices during processor operations	27	13	14
I292	Rewind BW negative or positive film on continuous printers	33	20	13
I653	Remove and replace tacky floormats	30	17	13
I281	Certify BW continuous printers sensitometrically	33	21	12
I287	Place unused BW raw stock in refrigeration	30	19	11
Q566	Annotate head, tail friskets, or leaders with mission data	24	13	11
Q574	Clean splicing equipment	21	10	11
I298	Thread BW materials on continuous printers	33	23	10
D97	Conducts OJT	6	31	-25
B54	Supervise Imagery Production Specialists (AFSC 23350)	0	23	-23
B35	Counsel personnel on personal or military-related matters	0	23	-23
S618	Clean and rinse chemical mixing equipment	30	51	-21
P534	Plot data from sensitometric strips	6	26	-20
C88	Write EPRs	3	23	-20
L374	Performs color processor shutdown procedures	0	20	-20
A4	Determine work priorities	6	26	-20
P535	Plot data on process control charts	3	23	-20
P476	Certify BW film startups	6	26	-20
S629	Mix packaged chemicals	27	45	-18
S623	Dispose of empty chemical containers	24	42	-18
L375	Perform color processing startup procedures	0	17	-17
S621	Determine silver content with silver test paper	6	23	-17
B45	Implement quality control standards	0	17	-17

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY
DAFSC 23370 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=135)
C88	Write EPRs	76
B54	Supervise Imagery Production Specialists (AFSC 23350)	73
A18	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	70
B35	Counsel personnel on personal or military-related matters	69
A4	Determine work priorities	67
B51	Orient newly assigned personnel	61
C90	Write recommendations for awards or decorations	61
A17	Establish work schedules	59
A15	Establish performance standards for subordinates	57
A28	Schedule leaves, passes, or temporary duty	56
C70	Evaluate personnel for compliance with performance standards	54
D97	Conduct OJT	54
A24	Plan work assignments	53
A9	Develop work methods or procedures	51
C85	Perform self-inspections	48
C63	Evaluate individuals for recognition	47
B50	Interpret policies, directives, or procedures for subordinates	45
D95	Assign on-the-job training (OJT) trainers	43
D100	Counsel trainees on training programs	41
C78	Evaluate work schedules	40
D112	Maintain training records, charts, or graphs	39
A1	Assign personnel to duty positions	39
A2	Assign work to sections	39
B45	Implement quality control standards	39
B52	Supervise Apprentice Imagery Production Specialists (AFSC 23330)	39
E124	Initiate maintenance work orders to repair photoprocessing equipment	39
E135	Post bulletins or notices	38
A3	Determine logistics requirements, such as equipment, personnel, and space	37
C58	Analyze workload requirements	36

TABLE 11

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 23350 AND DAFSC 23370 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		23350 (N=219)	23370 (N=135)	DIFFERENCE
S612	Add chemicals to mix tanks	55	25	30
S645	Wash down walls or floors of chemical mix area	43	13	30
S618	Clean and rinse chemical mixing equipment	51	24	27
H259	Remove and clean BW processing racks	47	27	20
S629	Mix packaged chemicals	45	25	20
88	Write EPRs	23	76	-53
A17	Establish work schedules	8	59	-51
B54	Supervise Imagery Production Specialists (AFSC 23350)	23	73	-50
A28	Schedule leaves, passes, or temporary duty	6	56	-50
B35	Counsel personnel on personal or military-related matters	23	69	-46
C90	Write recommendations for awards or decorations	15	61	-46
C70	Evaluate personnel for compliance with performance standards	12	54	-42
A15	Establish performance standards for subordinates	15	57	-42
A4	Determine work priorities	26	67	-41
A24	Plan work assignments	11	53	-42
B51	Orient newly assigned personnel	20	61	-41
C63	Evaluate individuals for recognition	9	47	-38
A18	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	32	70	-38
D95	Assign on-the-job training (OJT) trainers	7	43	-36

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY DAFSC 23370 PERSONNEL WHO WORK IN THE CONTINUOUS BLACK AND WHITE PHOTOPROCESSING JOB

TASKS		PERCENT MEMBERS PERFORMING (N=38)
H267	Set or maintain BW processor transport speeds	95
H265	Set or maintain BW processor chemistry temperature	95
H263	Set or maintain BW chemistry replenisher rates	95
H244	Fill BW processor chemical tanks with BW chemistry	95
H230	Certify BW processors mechanically	89
H237	Clean BW processor rollers	89
H243	Drain or refill BW processor washtanks	89
H257	Process BW film control strips for machine speed or gamma charts	87
H231	Certify BW processors sensitometrically	87
H239	Clean BW processor tanks	87
H266	Set or maintain BW processor dryer temperature and humidity	87
H260	Season BW film processor chemical tanks	87
H262	Set and maintain BW processor water temperature and flow rates	84
H245	Inspect BW processors prior to startup	84
H252	Perform BW processor startup procedures	84
H251	Perform BW processor shutdown procedures	84
C88	Write EPRs	82
H234	Clean BW processing rooms	82
H236	Clean BW processor interiors using system cleaning solutions	82
H242	Drain BW processor chemical tanks	82
H232	Change BW processor chemical filters	82
H229	Certify BW processors chemically	79
H264	Set or maintain BW processor chemical recirculation	79
B54	Supervise Imagery Production Specialists (AFSC 23350)	76
H268	Splice BW control strips to leaders or leader tabs	76
H250	Monitor quality of processed BW materials at processor takeup reels	76
H254	Position BW processor racks	76
H233	Change BW processor water filters	74
H240	Conduct BW film inspections after processing	74
D97	Conduct OJT	71
H259	Remove and clean BW processing racks	68
H235	Clean BW processor film dryers	68
H241	Cut processed BW materials	63
H238	Clean BW processor squeegees	63
C90	Write recommendations for awards or decorations	63
H272	Splice BW scratch test materials to leaders or leader tabs	58
H255	Position weirs for solution carryover	58
B35	Counsel personnel on personal or military-related matters	55
A17	Establish work schedules	55

TABLE 13

REPRESENTATIVE TASKS PERFORMED BY DAFSC 23370 PERSONNEL WHO WORK IN THE CONTINUOUS COLOR PHOTOPROCESSING JOB

TASKS		PERCENT MEMBERS PERFORMING (N=13)
L361	Fill color processor chemical tanks with color chemistry	92
L387	Set or maintain temperature of color chemistry	92
L360	Drain color processor chemical tanks	92
L386	Set or maintain color processor water temperature and flow rates	92
L384	Set or maintain color chemistry replenisher rates	92
L380	Process color film control strips	85
L375	Perform color processor startup procedures	85
L362	Inspect color processors prior to startup	85
L373	Obtain color certification materials	85
P535	Plot data on process control charts	85
P534	Plot data from sensitometric strips	85
L358	Conduct color film inspections after processing	85
L385	Set or maintain color processor transport speed	85
L381	Process color processor certification materials	77
L374	Perform color processor shutdown procedures	77
B54	Supervise Imagery Production Specialists (AFSC 23350)	77
L355	Clean color processor rollers	77
L365	Inspect or change color processor chemical filters	77
L398	Verify color processor speed controls	77
C88	Write EPRs	77
A4	Determine work priorities	77
L376	Perform corrosion control on color processing equipment	69
L382	Rinse color processor rollers or racks after shutdown	69
L356	Clean color processor rooms	69
L378	Prepare color film machine certification startups	69
S624	Fill chemical mix tanks with water at mix temperature	69
L366	Inspect or change color processor water filters	69
S612	Add chemicals to mix tanks	69
E124	Initiate maintenance work orders to repair photoprocessing equipment	69
P533	Place long term control strips in freezers	69
C85	Perform self-inspections	69
P489	Control chemical stability	62
S629	Mix packaged chemicals	62
S627	Make corrective additions to mixed chemistry	62
S623	Dispose of empty chemical containers	62
P504	Enter data on process control charts	62
P545	Read densities of sensitometric strips	62
P473	Calibrate densitometers	62
S618	Clean and rinse chemical mixing equipment	62

TABLE 14

REPRESENTATIVE TASKS PERFORMED BY DAFSC 23370 PERSONNEL WHO WORK IN THE CONTINUOUS BLACK AND WHITE PRINTING JOB

TASKS		PERCENT MEMBERS PERFORMING (N=5)
I290	Print BW duplicates using continuous printers	100
I298	Thread BW materials on continuous printers	100
Q571	Clean aerial films	100
I282	Clean BW continuous printers	100
I294	Select BW raw stocks for continuous printing	100
Q566	Annotate head, tail friskets, or leaders with mission data	100
I292	Rewind BW negative or positive film on continuous printers	100
I284	Inspect BW continuous printers for tension, tracking, or physical defects	100
B54	Supervise Imagery Production Specialists (AFSC 23350)	100
Q584	splice head or tail friskets or leaders onto original film	100
Q585	Transport completed materials to production control or operations	100
Q574	Clean splicing equipment	100
C88	Write EPRs	100
D97	Conduct OJT	100
C90	Write recommendations for awards or decorations	100
I293	Rewind BW negative or positive film using editing tables	80
Q578	Inspect processed film for processing defects	80
Q582	Place identification labels on film reels or film cans	80
T653	Remove and replace tacky floormats	80
I297	Test BW continuous printer mechanical operation	80
I281	Certify BW continuous printers sensitometrically	80
C78	Evaluate work schedules	80
I289	Print BW control flash film	80
I275	Adjust lamp intensities on BW continuous printers	80
A17	Establish work schedules	80
T655	Wash hands before entering cleanrooms	60
T651	Monitor temperature and humidity in cleanrooms	60
I283	Expose BW tone control strips on continuous printers	60
B52	Supervise Apprentice Imagery Production Specialists (AFSC 23330)	60
E134	Perform preventive maintenance on photographic equipment	60

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY
DAFSC 23390 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=10)
B35	Counsel personnel on personal or military-related matters	100
B51	Orient newly assigned personnel	90
B47	Implement self-inspection programs	90
A18	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	80
A4	Determine work priorities	80
A2	Assign work to sections	80
B50	Interpret policies, directives, or procedures for subordinates	80
C85	Perform self-inspections	80
C63	Evaluate individuals for recognition	70
C88	Write EPRs	70
A1	Assign personnel to duty positions	70
C80	Indorse enlisted performance reports (EPR)	70
C90	Write recommendations for awards or decorations	70
D106	Evaluate OJT trainers or trainees	70
B46	Implement safety or security programs	60
A3	Determine logistics requirements, such as equipment, personnel, and space	60
B32	Conduct briefings	60
A24	Plan work assignments	60
C74	Evaluate safety or security programs	60
C75	Evaluate self-inspection programs	60
D100	Counsel trainees on training programs	60
B56	Supervise Imagery Production Technicians (AFSC 23370)	60
A17	Establish work schedules	60
A28	Schedule leaves, passes, or temporary duty	60
C70	Evaluate personnel for compliance with performance standards	60
C73	Evaluate production reports	60
C65	Evaluate job descriptions	60
A23	Plan safety or security programs	50
A15	Establish performance standards for subordinates	50
C59	Evaluate administrative forms, files, or procedures	50
B45	Implement quality control standards	50
B49	Initiate personnel action requests, such as AF Forms 2096 (Classification/On-the-Job Training Action)	50
A27	Prepare briefings	50

TABLE 16

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 23370 AND DAFSC 23390 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		23370 (N=135)	23390 (N=10)	DIFFERENCE
B54	Supervise Imagery Production Specialists (AFSC 23350)	73	30	43
H251	Perform BW processor shutdown procedures	36	0	36
H231	Certify BW processors sensitometrically	36	0	36
H230	Certify BW processors mechanically	36	0	36
H252	Perform BW processor startup procedures	35	0	35
H262	Set and maintain BW processor water temperature and flow rates	35	0	35
H265	Set or maintain BW processor chemistry temperatures	34	0	34
H245	Inspect BW processors prior to startup	34	0	34
H229	Certify BW processors chemically	33	0	33
H244	Fill BW processor chemical tanks with BW chemistry	33	0	33
H267	Set or maintain BW processor transport speeds	33	0	33
H263	Set or maintain BW chemistry replenisher rates	33	0	33
B47	Implement self-inspection programs	33	90	-57
C80	Indorse enlisted performance reports (EPR)	27	70	-43
A2	Assign work to sections	39	80	-41
C73	Evaluate production reports	20	60	-40
B48	Implement suggestion programs	10	50	-40
C75	Evaluate self-inspection programs	21	60	-39
A29	Write job descriptions	32	70	-38
B32	Conduct briefings	24	60	-36
D106	Evaluate OJT trainers or trainees	35	70	-35
B50	Interpret policies, directives, or procedures for subordinates	45	80	-35
A8	Develop organizational charts	16	50	-34
B40	Direct maintenance of publication libraries	6	40	-34
C65	Evaluate job descriptions	27	60	-33
A26	Prepare agendas for symposiums, conferences, or workshops	7	40	-33
C66	Evaluate maintenance of publication libraries	7	40	-33
C59	Evaluate administrative forms, files, or procedures	18	50	-32

Summary

Progression in this career ladder follows a pattern of diverse technical job focus through the 3-, 5-, and 7- skill levels, with a broadening into supervision occurring at the 7-skill level. Emphasis is seen in performing primarily BW photoprocessing and printing at the 3- and 5-skill levels, with more color work being done at the 5-skill level. Technicians at the 7-skill level are beginning to shift to supervision tasks, but a good deal of their job time is still spent in the technical arena. The 9-skill level personnel are primarily managers of the career ladder. This progression is easily seen in Table 5 and serves the career ladder by providing a regular progression from the 3-skill level to the 9-skill level.

ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFR 39-1 Specialty Descriptions for Imagery Production Specialists, Technicians, and Superintendents, effective 30 April 1991. These specialty descriptions are intended to provide a broad overview of the duties and responsibilities of each skill level.

Specialty descriptions for all skill levels are generally accurate and are supported by survey data. The 3- and 5-skill level descriptions clearly outline the technical nature of these jobs. The 7-skill level description accurately reflects the added supervisory and directing functions at that level, as well as the continued performance of technical functions. The 9-skill level specialty description accurately reflects the supervisory and management nature of this job.

TRAINING ANALYSIS

Occupational survey data represent one of many sources of information which are used to assist in the development of training programs for career ladder personnel. OSR data useful to training personnel include job descriptions for the various jobs performed within a career ladder, distribution of personnel across career ladder jobs, percentages of personnel performing specific tasks, as well as the difficulty of tasks and TE ratings gathered from senior members of the career ladder.

This section of the OSR concentrates on training for first-enlistment personnel, as well as reviews of the STS and POI for the basic course.

First-Enlistment Personnel

In this study, there are 98 members in their first enlistment (1-48 months TAFMS), representing 25 percent of the survey sample. As displayed in Table 17, approximately 94 percent of their duty time is devoted to technical or administrative and production control functions. Most commonly performed tasks are listed in Table 18. Equipment items used by 20 percent or more of first-enlistment personnel are listed in Table 19.

Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the SPECIALTY JOBS section of this report. Of the 10 jobs identified, first-enlistment personnel are found in 6 of the 10 jobs identified. As shown in Figure 2, 50 percent of all first-enlistment personnel work in the Continuous BW Photoprocessing job. Another 10 percent work in the Manual BW Printing job. Eight percent work in the Continuous Color Photoprocessing job.

TD and TE Data

TD and TE data are secondary factors that can help technical school personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank-ordering of those tasks considered important for first-enlistment airman training (TE), and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To help in this determination, an Automated Training Indicator (ATI) is assigned to each task in the job inventory. ATIs combine first-enlistment percent members performing with TE and TD data to reflect a training decision based on ATCR 52-22, Atch 1. ATIs are numbered 1 to 18, with an 18 being the highest level of training indicated. An ATI of 7 or less corresponds to a training decision of teaching the task by OJT only. To illustrate, if a task has high TE and TD ratings, and also has high percentages of first-enlistment members performing, an ATI above 16 is assigned to the task. With such an ATI rating, strong recommendations can be made to emphasize training the task in a resident training course, preferably to both the knowledge and performance levels.

TABLE 17

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 233X0 PERSONNEL**

DUTIES		PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	2
B	DIRECTING AND IMPLEMENTING	1
C	INSPECTING AND EVALUATING	2
D	TRAINING	1
E	PERFORMING PHOTOPROCESSING, ADMINISTRATIVE, AND PRODUCTION CONTROL FUNCTIONS	7
F	MAINTAINING RELOCATABLE PHOTOGRAPHIC FACILITIES	3
G	OPERATING COPY CAMERAS	3
H	PROCESSING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	26
I	PRINTING BLACK AND WHITE (BW) MATERIALS BY CONTINUOUS METHODS	7
J	PROCESSING BLACK AND WHITE (BW) FILM MANUALLY	1
K	EXPOSING, PROCESSING, AND FINISHING BLACK AND WHITE (BW) PRINTS MANUALLY	12
L	PROCESSING COLOR MATERIALS BY CONTINUOUS METHODS	5
M	PRINTING COLOR MATERIALS BY CONTINUOUS METHODS	1
N	PROCESSING COLOR FILM MANUALLY	*
O	EXPOSING, PROCESSING, AND FINISHING COLOR PRINTS MANUALLY	*
P	MAINTAINING QUALITY CONTROL	12
Q	EDITING AND CLEANING IMAGERY	5
R	TITLING IMAGERY	1
S	PRODUCING CHEMICAL MIXES AND PERFORMING CHEMICAL ANALYSIS	9
T	CONTROLLING CLEANROOM AND ENVIRONMENT	2

** Total time spent does not add up to 100 percent due to rounding

* Denotes less than 1 percent

TABLE 18

MOST COMMONLY PERFORMED TASKS FOR
FIRST-ENLISTMENT AFSC 233X0 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=98)
S612	Add chemicals to mix tanks	52
H237	Clean BW processor rollers	50
H234	Clean BW processing rooms	49
H267	Set or maintain BW processor transport speeds	49
H243	Drain or refill BW processor washtanks	49
H242	Drain BW processor chemical tanks	49
H251	Perform BW processor shutdown procedures	48
H252	Perform BW processor startup procedures	47
H239	Clean BW processor tanks	46
H236	Clean BW processor interiors using system cleaning solutions	46
H265	Set or maintain BW processor chemistry temperatures	46
H262	Set and maintain BW processor water temperature and flow rates	46
H263	Set or maintain BW chemistry replenisher rates	46
H244	Fill BW processor chemical tanks with BW chemistry	46
H259	Remove and clean BW processing racks	45
H260	Season BW film processor chemical tanks	44
H229	Certify BW processors chemically	43
H257	Process BW film control strips for machine speed or gamma charts	43
H245	Inspect BW processors prior to startup	42
H233	Change BW processor water filters	42
S618	Clean and rinse chemical mixing equipment	41
S645	Wash down walls or floors of chemical mix area	41
H266	Set or maintain BW processor dryer temperature and humidity	41
H254	Position BW processor racks	41
H264	Set or maintain BW processor chemical recirculation	40
H232	Change BW processor chemical filters	40
H230	Certify BW processors mechanically	39
H231	Certify BW processors sensitometrically	38
H235	Clean BW processor film dryers	37
S624	Fill chemical mix tanks with water at mix temperature	35
H240	Conduct BW film inspections after processing	35
K313	Compose or focus BW prints using projection printers	34
S642	Transfer certified mixed chemistry to storage tanks	34
H241	Cut processed BW materials	34
S623	Dispose of empty chemical containers	34
H250	Monitor quality of processed BW materials at processor takeup reels	34
S629	Mix packaged chemicals	34
K324	Expose BW prints using projection printers	32
K340	Select lenses for BW projection printers	32
H238	Clean BW processor squeegees	32
H253	Perform corrosion control on BW processing equipment	32

TABLE 19

EQUIPMENT ITEMS USED BY MORE THAN 20 PERCENT OF FIRST-JOB OR FIRST-ENLISTMENT AFSC 233X0 PERSONNEL

EQUIPMENT	1ST JOB (N=38)	1ST ENL (N=98)
Chemical Mixing Equipment	53	56
Computers	58	53
Transmission Densitometers	47	51
Mixing Tanks	45	49
Versamat 1140 Processors	47	47
pH Meters	39	40
Tacky Roll Cleaners	39	37
Clean Room Clothing	45	36
Hydrometers	29	35
Tape Splicers	42	34
Editing and Readout Tables	37	33
Rewind Tables	32	33
Niagara III Printers	39	33
Mark IV R5A Printers	16	30
Bessler EN-52 Enlargers	21	29
Print Filters	26	29
Film Splicers	34	29
Tachometers	21	29
Protective or Safety Equipment	32	28
Preinspection Tables	32	27
Clean Room Shoe Cleaners	29	26
Glassware	26	26
Reflectance Densitometers	16	24
Light Filters	21	24
Sensitometers	21	24
Contact EN-22 or EN-67 Printers	24	22
Ultrasonic Rack Cleaners	21	21
Denver Edit Stations	21	21
Beacon Enlargers	18	20
Static Eliminating Equipment	29	20
Tacoma Titlers	16	20
Hope Black and White Processors	26	19
Fultron Processors	24	16

FIRST ENLISTMENT PERSONNEL JOBS
(N=98)

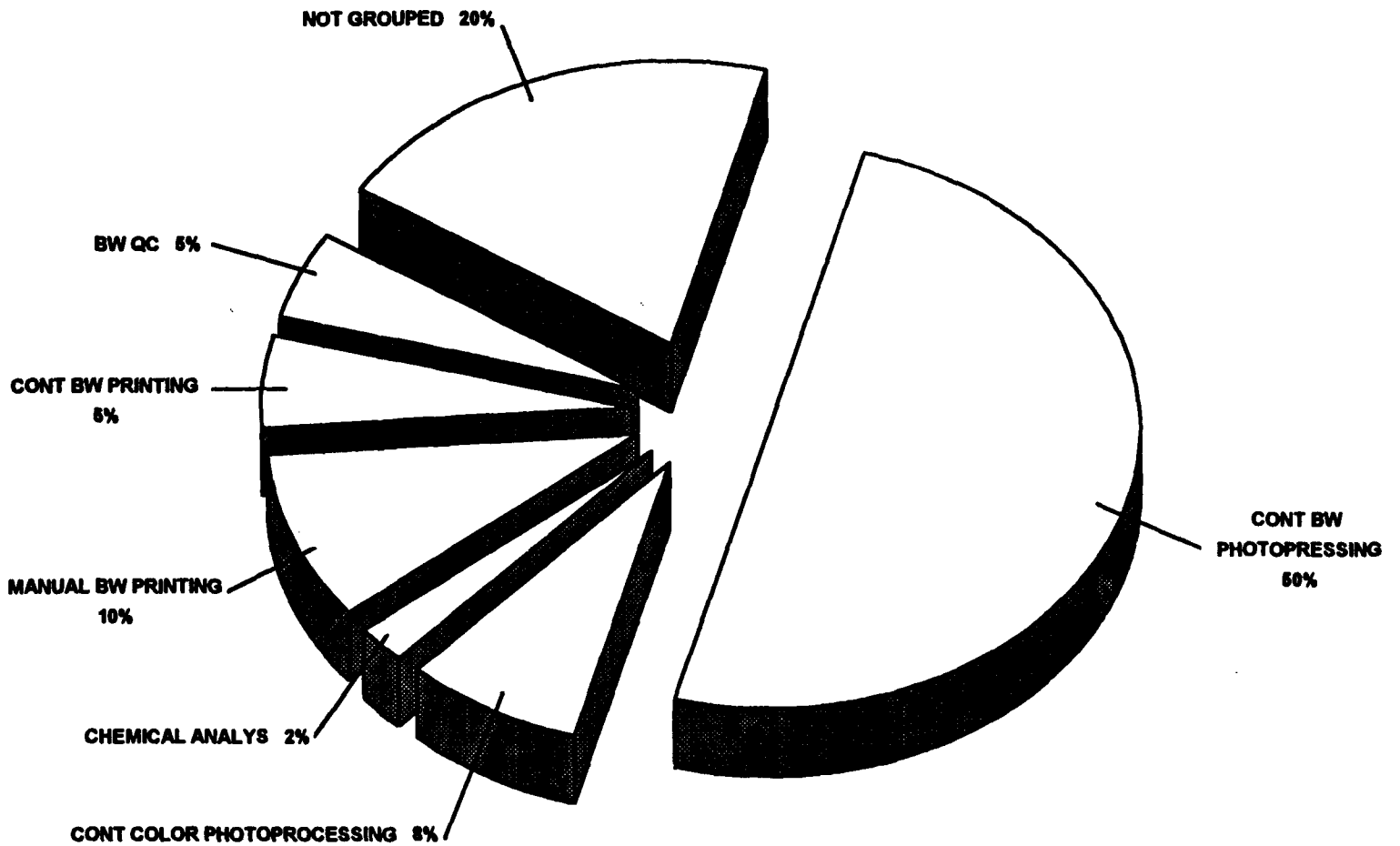

FIGURE 2

Tasks having the highest TE ratings are listed in Table 20. Included for each task are the percentage of first-job and first-enlistment personnel performing and the TD rating. As illustrated by the tasks listed, most apply to BW photoprocessing.

Table 21 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing, and the TE ratings are also included for each task. The majority of tasks with high difficulty are not performed by high percentages of any group; however, many are performed by higher percentages of the 7-skill level group. Most of the tasks with high TD values are related to duties which pertain to maintaining quality control functions (Duty P) and producing chemical mixes and performing chemical analyses (Duty S). Other tasks listed relate to supervisory or management duties.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TD and TE ratings, see the Task Factor Administration in the SURVEY METHODOLOGY section of this report.

Specialty Training Standard (STS)

A comprehensive review of STS 233X0 was made by comparing survey data to STS elements. Technical school personnel from the Lowry Training Center matched job inventory tasks to appropriate STS sections and subsections. A complete computer listing displaying the percent members performing tasks, TE and TD ratings for each task, along with the STS matchings, has been forwarded to the technical school for their further review of the training documents.

General STS elements, such as Career Ladder Progression, Security, Air Force Occupational Safety and Health Program, Technical Publications, USAF Graduate Evaluation Program, Supervision, and Training were not reviewed. Technical areas covering STS paragraphs 10 through 24 were thoroughly reviewed against OSR data. Typically, STS areas having matched tasks which have sufficiently high TE and TD ratings, and are performed by at least 20 percent of personnel in appropriate experience or skill-level groups (such as first-enlistment (1-48 months TAFMS) and 5- and 7-skill level groups), should be retained in the STS. On the other hand, STS areas having tasks with less than 20 percent performing across all of these groups should be considered for deletion.

Using this standard approach, a substantial portion of STS paragraphs did not have matched tasks with at least 20 percent members performing when compared to the total population criterion groups mentioned above. This lack of support across so many elements is no doubt due to the high degree of diversity among the jobs or functions performed within the career ladder. With personnel performing functions ranging from photoprocessing or printing BW or color materials, either manually or by continuous methods, editing and titling imagery, and maintaining quality control, to mixing chemicals and performing chemical analysis, most job-specific tasks will not reflect the high percentage of group members performing them. However,

TABLE 20

AFSC 233X0 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
H230	Certify BW processors mechanically	7.05	45	39	5.39
H231	Certify BW processors sensitometrically	7.03	45	38	5.32
H229	Certify BW processors chemically	6.89	53	43	5.24
H252	Perform BW processor startup procedures	6.49	55	47	4.49
H251	Perform BW processor shutdown procedures	6.43	58	48	4.45
H257	Process BW film control strips for machine speed or gamma charts	6.27	47	43	4.32
H236	Clean BW processor interiors using system cleaning solutions	6.24	55	46	4.85
H237	Clean BW processor rollers	6.16	63	50	4.14
H249	make BW running splices during processor operations	5.97	24	16	5.71
H239	Clean BW processor tanks	5.92	26	22	3.97
H270	Splice BW film mission material to leaders or leader tabs	5.92	53	46	4.17
H258	Process BW film control strips for tone control charts	5.89	39	31	4.78
H260	Season BW film processor chemical tanks	5.84	53	44	4.10
H269	Splice BW control strips to mission film	5.84	29	21	4.14
H232	Change BW processor chemical filters	5.81	47	40	4.01
H240	Conduct BW film inspections after processing	5.81	37	35	4.99
H256	Preinspect BW film for physical defects	5.78	32	24	5.17

TE MEAN = 3.15; SD = 1.54 (High TE = 4.69)
TD MEAN = 5.00; SD = 1.00

TABLE 20 (CONTINUED)

AFSC 233X0 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
I290	Print BW duplicates using continuous printers	5.78	24	23	4.13
P476	Certify BW film startups	5.76	11	20	5.09
H235	Clean BW processor film dryers	5.73	39	37	4.53
H245	Inspect BW processors prior to startup	5.73	50	42	4.00
P497	Determine gamma from sensitometric strips	5.73	16	20	5.53
H273	Splice BW scratch test materials to mission film	5.70	16	12	4.25
H274	Thread BW processors with leaders	5.68	24	16	5.19
K323	Expose BW prints using contact printers	5.65	24	29	4.32
P502	Determine solution pH using pH meters	5.65	24	21	4.75
I281	Certify BW continuous printers sensitometrically	5.62	24	21	4.97
H233	Change BW processor water filters	5.60	47	42	4.00
H271	Splice BW runout leaders to mission film	5.54	11	12	4.13
K313	Compose or focus BW prints using projection printers	5.54	24	34	4.10
K324	Expose BW prints using projection printers	5.54	24	32	4.55
P503	Determine specific gravity of solutions	5.54	16	20	4.68
H259	Remove and clean BW processing racks	5.49	53	45	4.38
P546	Read density-minimum (D-MIN) and density-maximum (D-MAX) densities of originals or duplicates	5.49	5	13	4.72
H272	Splice BW scratch test materials to leaders or leader tabs	5.46	29	22	3.81
I286	Perform BW continuous printer startup procedures	5.46	26	26	3.59

TE MEAN = 3.15; SD = 1.54 (High TE = 4.69)
TD MEAN = 5.00; SD = 1.00

TABLE 21

AFSC 233X0 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		PERCENT MEMBERS PERFORMING					
		TSK DIFF	1ST JOB	1ST ENL	DAFSC 23350	DAFSC 23370	TNG EMP
A10	Draft budget requirements	7.83	0	0	2	16	.38
C92	Write staff studies, surveys, or special reports, other than training reports	7.81	0	1	2	11	.41
C60	Evaluate budget requirements	7.76	0	0	2	13	.24
D102	Develop resident course or career development course	7.67	0	0	1	4	.38
P544	Program microcomputers	7.63	0	1	2	6	2.08
P459	Align microdensitometer optics	7.44	0	0	0	1	1.81
A20	Plan interservice support agreements	7.43	0	1	2	5	.30
S630	Perform colorimetric titrations	7.36	5	3	2	3	1.92
S632	Perform potentiometric titrations	7.32	3	2	2	2	2.38
P472	Calculate sine wave responses (SWR) from microdensitometer traces	7.32	0	1	0	1	1.43
P469	Calculate modulation transfer function (MTF) from microdensitometer traces	7.28	0	0	0	1	1.51
P552	Run microdensitometer traces of modulation transfer functions	7.24	0	0	0	1	1.22
P467	Calculate color correction filtration to achieve color balance for continuous printers	7.23	0	0	1	4	2.54
S633	Perform spectrophotometric analyses	7.22	5	3	1	1	1.78
P553	Run microdensitometer traces of sine wave targets for modulation transfer studies	7.17	0	0	0	1	1.19

TD MEAN = 5.00; SD = 1.00
TE MEAN = 3.15; SD = 1.54 (High TE = 4.69)

TABLE 21 (CONTINUED)

AFSC 233X0 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		PERCENT MEMBERS PERFORMING					
		TSK DIFF	1ST JOB	1ST ENL	DAFSC 23350	DAFSC 23370	TNG EMP
C87	Write civilian performance ratings or supervisory appraisals	7.15	0	0	1	2	.22
F150	Conduct site surveys for relocatable shelters	7.11	0	1	2	1	1.11
P468	Calculate granularity from microdensitometer traces	7.11	0	0	1	1	1.70
P531	Perform titrations on chemical solutions	7.06	5	4	4	5	2.70
C79	Indorse civilian performance ratings or supervisory appraisals	7.03	0	0	1	1	.22
P466	Calculate acutance from microdensitometer traces	7.01	0	0	0	1	2.05
A12	Establish environmental control system monitoring plans	7.01	3	1	3	11	1.03
B44	Implement interservice support agreements	6.98	0	0	2	7	.35
A21	Plan layout of facilities	6.97	0	0	4	17	.38
P550	Run microdensitometer traces of edge sharpness	6.95	0	1	0	1	1.30
Q581	Perform scene-to-scene color corrections	6.90	0	2	3	2	1.81
P556	Run subjective microscopic image sharpness evaluations	6.90	0	1	0	5	1.35
P551	Run microdensitometer traces of granularity	6.90	0	1	0	1	1.30
O437	Determine filter packs for manual printers	6.89	0	2	7	7	3.35
A26	Prepare agendas for symposiums, conferences, or workshops	6.87	0	0	2	7	.27
D435	Correct color prints produced manually using color correction filters	6.85	3	2	7	7	4.14

TD MEAN = 5.00; SD = 1.00
TE MEAN = 3.15; SD = 1.54 (High TE = 4.69)

since the STS is intended to provide comprehensive coverage of tasks performed by career ladder personnel across all jobs or functions, it is critical that job-specific tasks be included in the STS.

This diversity and variety of jobs within the AFSC 233X0 career ladder therefore warrant a different approach, or perspective, in examining the STS to ensure that all major jobs are adequately covered on the STS. Thus, a second printout was created showing the 10 job groups identified and corresponding percent members performing data for tasks matched to each STS paragraph. By using this method, 15 areas of the STS were not supported by OSR data for either the original criterion groups or the 10 job groups. These 15 areas are listed in Table 22. Because of the large number of jobs performed within the career ladder, Table 22 only shows OSR data for the criterion groups for ease of presentation. A complete listing of the STS paragraphs, with OSR data displayed for each of the 10 jobs identified, can be found in the TRAINING EXTRACT report which accompanies this OSR. The bottom line to both approaches is essentially the same--none of these 15 STS paragraphs had matched tasks with at least 20 percent or more of any criterion or job group performing. Training personnel and SMEs should review these areas closely to determine if continued inclusion in future revisions to the STS is warranted.

Tasks not matched to any paragraph of the STS are listed at the end of the STS computer listing. Table 23 lists examples of tasks which were performed by 20 percent or more of criterion groups, but not matched to any STS item. Training personnel and SMEs should review these and other unreferenced tasks to determine their appropriateness in being included in the STS. These unreferenced tasks cover a wide variety of areas across the career ladder.

Plan of Instruction (POI)

POI G3ABR23330 002, Apprentice Imagery Production Specialty, dated 21 April 1992, was reviewed against OSR data and the job structure described earlier in the SPECIALTY JOBS section. In general, the course covers the major areas performed by career ladder personnel, from photoprocessing and printing of photographic materials, both manually and by continuous methods, to mixing chemicals and chemical quality assurance and editing reconnaissance imagery. Most areas concern themselves with BW film processing and printing, which is appropriate, given that most of the work done by career ladder members involves BW materials. The last block of the course covers color processing, which is supported by the fact that some jobs in the career ladder structure specialize around color. From a review of the overall POI, the course gives newly assigned airmen a good introduction to the major aspects of the jobs which will most likely be performed in their first assignment.

However, some elements of the course need to be reviewed because of low utilization by first enlistment personnel. Several areas identified in the STS analysis as not being supported (see Table 22) are being taught in the course, specifically the use of filters for copying (STS area 11g - A level of instruction), evaluation of photographic emulsions resolution, acutance, graininess, and granularity (STS areas 21a(1) through 21a(4) - b level of instruction), operation of image evaluation equipment using magnification of visual images (STS area 21b - 1a level of instruction), and computer quality assurance - process control and tone reproduction (STS areas

TABLE 22

STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS		3 LVL COURSE PROF CODE	TNG EMP	PERCENT MEMBERS PERFORMING 1ST ENL (N=98)	5-SKILL LVL (N=219)	7-SKILL LVL (N=135)	TSK DIF
11g.	Use filters for copying	A					
	G207 Balance copy film light sources using filters		2.68	4	6	5	5.51
	G213 Employ correction filters when copying stained materials		2.78	2	6	1	5.87
	G214 Install contrast filters		3.35	7	10	2	4.03
	G215 Install specified safelight filters		2.81	2	4	1	3.78
18c(1).	Determine effects of reciprocity failure	-					
	P528 Perform reciprocity law failure tests		1.54	1	0	2	6.32
20a(1).	Use automatic calculators to determine probability of events	-					
	P471 Calculate probability of events		2.41	3	2	4	6.70
20a(2).	Use automatic calculators to determine measures of central tendencies	-					
	P486 Construct frequency distributions		2.92	0	0	3	6.32

TABLE 22 (CONTINUED)

STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS	3 LVL COURSE PROF CODE	TNG EMP	PERCENT MEMBERS PERFORMING 1ST ENL (N=98)	5-SKILL LVL (N=219)	7-SKILL LVL (N=135)	TSK DIF
21a(1). Evaluate photographic emulsions resolution	b					
P555 Run microscopic resolution evaluations		1.73	3	2	4	6.80
P556 Run subjective microscopic image sharpness evaluations		1.35	1	0	5	6.90
21a(2). Evaluate photographic emulsions acutance	b					
P466 Calculate acutance from microdensitometer traces		2.05	0	0	1	7.01
P550 Run microdensitometer traces of edge sharpness		1.30	1	0	1	6.95
21a(3). Evaluate photographic emulsions graininess	b					
P542 Produce photomicrographic records for graininess evaluations		1.54	0	0	1	6.22
P554 Run microscopic graininess evaluations		1.35	1	0	1	6.84
21a(4) Evaluate photographic emulsions granularity	b					
P551 Run microdensitometer traces of granularity		1.30	1	0	1	6.90

TABLE 22 (CONTINUED)

STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS		3 LVL COURSE PROF CODE	TNG EMP	PERCENT MEMBERS PERFORMING 1ST ENL (N=98)	5-SKILL LVL (N=219)	7-SKILL LVL (N=135)	TSK DIF
21a(5).	Evaluate photographic emulsions dimensional accuracy	b					
	P519 Measure dimensional accuracy of film		2.22	2	1	5	5.96
	P526 Perform image evaluation with comparators		1.73	1	1	1	6.18
21b.	Operate image evaluation equipment using magnification of visual images	1a					
	P538 Prepare microscopes for image evaluation		1.27	0	1	4	5.57
	P565 Turn on or turn off microdensitometers		1.32	2	2	2	4.06
22b(2).	Correlate printers	-					
	M416 Run printer tests on continuous printers		3.22	2	2	4	4.74
23c.	Prepare test reports	-					
	E140 Prepare project evaluation reports		.65	0	2	4	5.71
24a(1).	Computer quality assurance - process control	1a					
	P527 Perform process control or tone reproduction using computers		3.65	10	11	15	5.66

TABLE 22 (CONTINUED)

STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS	3 LVL COURSE PROF CODE	TNG EMP	PERCENT MEMBERS PERFORMING 1ST ENL (N=98)	5-SKILL LVL (N=219)	7-SKILL LVL (N=135)	TSK DIF
24a(2). Computer quality assurance - tone reproduction	1a					
P527 Perform process control or tone reproduction using computers		3.65	10	11	15	5.66

TABLE 23

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE AFSC 233X0 GROUP MEMBERS BUT NOT REFERENCED TO STS

TASKS		PERCENT MEMBERS PERFORMING 1ST ENL (N=98)	DAFSC 23350 (N=219)	DAFSC 23370 (N=135)	TNG EMP*	TSK DIF**
E124	Initiate maintenance work orders to repair photoprocessing equipment	20	31	39	2.81	3.76
H228	Assemble or disassemble BW processor film dryers	26	26	17	5.16	6.04
H232	Change BW processor chemical filters	40	38	30	5.81	4.01
H233	Change BW processor water filters	42	36	27	5.59	4.00
H242	Drain BW processor chemical tanks	49	47	30	4.51	3.19
H244	Fill BW processor chemical tanks with BW chemistry	46	47	33	4.81	3.20
H257	Process BW film control strips for machine speed or gamma charts	43	43	33	6.27	4.32
H258	Process BW film control strips for tone control charts	31	30	21	5.89	4.78
H259	Remove and clean BW processing racks	45	47	27	5.49	4.38
H260	Season BW film processor chemical tanks	44	45	31	5.84	4.10
I294	Select BW raw stocks for continuous printing	20	20	21	4.35	4.14
I298	Thread BW materials on continuous printers	23	23	18	5.14	3.69
K308	Add chemicals to BW print processors	29	28	16	4.57	3.90
K309	Adjust easels for proper size prints	28	31	14	4.27	3.78
K343	Sort BW prints by work order	30	27	16	3.05	4.00
K346	Trim BW prints	31	28	16	3.65	3.03
P476	Certify BW film startups	20	26	21	5.76	5.09
P506	Establish film machine speed	23	25	29	4.11	5.90
P522	Measure machine speed with tachometers	23	28	27	4.54	3.95
S640	Store mixed chemicals	31	32	24	4.27	3.76
S641	Store unmixed chemicals	31	35	19	4.05	3.56

* Training emphasis has an average of 3.15, and a standard deviation of 1.54 (High TE = 4.69)

** Average Task difficulty rating is 5.00, and the standard deviation is 1.00

21a(1) and 21a(2) - 1a level of instruction). These areas need to be reviewed for possible deletion from the course, unless they are justified by some acceptable basis, such as high task difficulty, high training emphasis, or criticality.

In terms of putting together the mandatory 7-skill level course for this AFSC, the AFSC 233X0 functional and training communities should carefully review several data products in this OSR. The largest percentage of 7-skill level personnel work in the Supervisory and Management job (35 percent), but most of these tasks are inappropriate for inclusion in any technical 7-level course. To determine a core set of 7-skill level technical tasks, it is important to consider what technical jobs 7-skill levels are involved in. As shown in Table 5, the second largest percentage of 7-skill levels (28 percent) work in the Continuous BW Photoprocessing job. Smaller percentages of 7-skill level personnel also work in the Continuous Color Photoprocessing job and the Continuous BW Printing job. Tables 12 through 14 show tasks performed by the 7-skill level personnel in each of these jobs. Tasks from these three job descriptions should be considered the core tasks for any 7-skill level course established for the AFSC 233X0 career ladder, with those tasks from the Continuous BW Photoprocessing job perhaps being the most important.

JOB SATISFACTION ANALYSIS

An examination of responses to the job satisfaction questions can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. The survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several comparisons: (1) among TAFMS groups of the Imagery Production career ladder and a comparative sample of personnel from other Direct Support career ladders surveyed in 1992 (AFSCs 121X0, 231X1, 231X2, 251X0, 545X1 (new 566X2), 811X0, 811X2, 811X2A); (2) between current and previous survey experience groups; and (3) across specialty groups identified in the SPECIALTY JOBS section of the report.

Table 24 compares first-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data to corresponding enlistment groups from other Direct Support AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 233X0 personnel compares with similar Air Force specialties. Imagery Production personnel reported very similar job satisfaction to members of the comparative sample. Overall, satisfaction for all three TAFMS groups, while slightly low, is positive, with no serious satisfaction problems noted.

Comparison of job satisfaction indicator responses of the current survey sample to TAFMS groups in AFSC 233X0 in the 1982 survey (see Table 25) indicates that the current survey respondents are generally more positive or, at the least, similar to the AFSC 233X0 respondents. Biggest improvements appear to occur in the job interest of the 1-48 month

TABLE 24

JOB SATISFACTION INDICATORS FOR AFSC 233X0 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)**

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	233X0 (N=98)	COMP SAMPLE (N=3,169)	233X0 (N=119)	COMP SAMPLE (N=2,215)	233X0 (N=180)	COMP SAMPLE (N=3,431)
EXPRESSED JOB INTEREST						
INTERESTING	60	51	58	56	68	70
SO-SO	19	19	23	18	18	15
DULL	20	30	19	26	13	15
PERCEIVED USE OF TALENTS						
FAIRLY WELL TO PERFECT	63	60	72	66	75	77
NONE TO VERY LITTLE	37	40	28	34	25	23
PERCEIVED USE OF TRAINING						
FAIRLY WELL TO PERFECT	71	78	77	76	73	78
NONE TO VERY LITTLE	29	22	23	24	27	22

** Columns may not add to 100 percent due to rounding or nonresponse
* Denotes less than 1 percent
Comparative data are from AFSCs 121X0, 231X1, 231X2, 251X0, 566X2, and 811X0/811X2/811X2A surveyed in 1992

TABLE 24 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 233X0 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)**

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	233X0 (N=98)	COMP SAMPLE (N=3,169)	233X0 (N=119)	COMP SAMPLE (N=2,215)	233X0 (N=180)	COMP SAMPLE (N=3,431)
SENSE OF ACCOMPLISHMENT FROM JOB						
SATISFIED	55	50	50	54	68	65
NEUTRAL	20	17	23	15	12	11
DISSATISFIED	24	33	27	31	20	24
REENLISTMENT INTENTIONS						
YES OR PROBABLY YES	54	48	70	63	73	72
NO OR PROBABLY NO	46	52	29	36	8	10
WILL RETIRE	0	0	1	*	19	18

** Columns may not add to 100 percent due to rounding or nonresponse
* Denotes less than 1 percent
Comparative data are from AFSCS 121X0, 231X1, 231X2, 251X0, 566X2, and 811X0/811X2/811X2A surveyed in 1992

TABLE 25

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 233X0
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY*
(PERCENT MEMBERS RESPONDING)**

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1993 233X0 (N=98)	1982 233X0 (N=183)	1993 233X0 (N=119)	1982 233X0 (N=110)	1993 233X0 (N=180)	1982 233X0 (N=140)
EXPRESSED JOB INTEREST						
INTERESTING	60	49	58	56	68	65
SO-SO	19	25	23	26	18	16
DULL	20	26	19	18	13	19
PERCEIVED USE OF TALENTS						
FAIRLY WELL TO PERFECT	63	55	72	63	75	71
NONE TO VERY LITTLE	37	44	28	37	25	29
PERCEIVED USE OF TRAINING						
FAIRLY WELL TO PERFECT	71	72	77	72	73	68
NONE TO VERY LITTLE	29	28	23	28	27	32

* Data from 1982 not shown since 233X1 was a lateral AFSC and only Time in Career Field (TICF) data were reported instead of TAFMS data

** Columns may not add to 100 percent due to rounding or nonresponse

TABLE 25 (CONTINUED)

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 233X0
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY*
(PERCENT MEMBERS RESPONDING)**

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1993 233X0 (N=98)	1982 233X0 (N=183)	1993 233X0 (N=119)	1982 233X0 (N=110)	1993 233X0 (N=180)	1982 233X0 (N=140)
SENSE OF ACCOMPLISHMENT FROM JOB						
SATISFIED	74	50	50	56	68	58
NEUTRAL	9	20	23	14	12	11
DISSATISFIED	16	28	27	30	20	31
REENLISTMENT INTENTIONS						
YES OR PROBABLY YES	54	61	70	57	73	78
NO OR PROBABLY NO	38	37	29	42	8	11
WILL RETIRE	1	0	1	0	19	10

* Data from 1982 not shown since 233X1 was a lateral AFSC and only Time in Career Field (TICF) data were reported instead of TAFMS data

** Columns may not add to 100 percent due to rounding or nonresponse

TAFMS group and reenlistment intentions of the 49-96 month TAFMS group. A comparison against AFSC 233X1 personnel from 1982 was not displayed in this table, since it was a lateral AFSC in 1982 and only Time in Career Field data groups were reported, not TAFMS groups.

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 26 presents job satisfaction data for the major jobs identified in the career ladder structure for AFSC 233X0. Job satisfaction indicators for the BW Quality Control, Continuous BW Photoprocessing, and Continuous Color Photoprocessing jobs were the lowest for any of the jobs identified. These three jobs comprise 52 percent of the total AFSC 233X0 sample. Those jobs specializing in printing materials appear to have higher job satisfaction.

IMPLICATIONS

From the standpoint of data gathered during this OSR, the merging of AFSCs 233X0 and 233X1 in 1984 is supported. No major problems with the merger were identified during the analysis, although the current AFSC 233X0 career ladder structure reflects a wide diversity and variety of jobs being performed. Overall job progression is normal, and AFR 39-1 Specialty Descriptions broadly describe the jobs and tasks being performed. Job satisfaction is generally positive, although some jobs reflected low job satisfaction. A thorough review of the STS should be conducted by SMEs using both job data and the standard criterion group data to ensure that job-specific tasks are included. Several areas need to be reviewed for possible deletion, and unmatched tasks need to be examined for possible inclusion. The POI for the basic 3-skill level course is generally supported and well laid out, but several areas need to be looked at for possible deletion due to low percentages of members performing related tasks across the career ladder. Data are also presented to assist the training community in putting together an effective 7-skill level course.

TABLE 26

JOB SATISFACTION INDICATORS FOR AFSC 233X0 JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	CONTINUOUS BW PHOTOPROCESS (STG043)	CONTINUOUS COLOR PHOTOPROCESS (STG038)	MANUAL BW PRINTER (STG052)	CONTINUOUS BW PRINTER (STG094)	MANUAL COLOR PRINTER (STG099)
EXPRESSED JOB INTEREST					
INTERESTING	56	54	81	71	83
SO-SO	20	22	15	21	17
DULL	24	24	4	7	0
PERCEIVED USE OF TALENTS					
FAIRLY WELL TO PERFECT	68	59	77	64	100
NONE TO VERY LITTLE	32	41	23	36	0
PERCEIVED USE OF TRAINING					
FAIRLY WELL TO PERFECT	80	56	69	86	83
NONE TO VERY LITTLE	20	44	31	14	17
SENSE OF ACCOMPLISHMENT FROM JOB					
SATISFIED	50	56	73	79	67
NEUTRAL	20	20	19	14	33
DISSATISFIED	30	24	8	7	0
REENLISTMENT INTENTIONS					
YES OR PROBABLY YES	65	68	69	71	100
NO OR PROBABLY NO	32	20	23	29	0
WILL RETIRE	3	12	8	0	0

* Columns may not add to 100 percent due to rounding or nonresponse

TABLE 26 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 233X0 JOB GROUPS
(PERCENT MEMBERS RESPONDING)*

	BW QUALITY CONTROL (STG076)	CHEMICAL ANALYSIS (STG111)	RELOCATABLE PHOTO FACILITY (STG070)	TECH SCHOOL INSTRUCTOR (STG109)	SUPVR/ MGMT (STG033)
EXPRESSED JOB INTEREST					
INTERESTING	33	67	80	75	78
SO-SO	33	22	20	25	12
DULL	33	11	0	0	10
PERCEIVED USE OF TALENTS					
FAIRLY WELL TO PERFECT	55	89	80	100	78
NONE TO VERY LITTLE	44	11	20	0	22
PERCEIVED USE OF TRAINING					
FAIRLY WELL TO PERFECT	67	89	80	75	78
NONE TO VERY LITTLE	33	11	20	25	22
SENSE OF ACCOMPLISHMENT FROM JOB					
SATISFIED	44	67	40	75	78
NEUTRAL	22	11	0	25	6
DISSATISFIED	33	22	60	0	16
REENLISTMENT INTENTIONS					
YES OR PROBABLY YES	67	78	60	75	68
NO OR PROBABLY NO	33	11	40	25	10
WILL RETIRE	0	11	0	0	22

* Columns may not add to 100 percent due to rounding or nonresponse

APPENDIX A

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

TABLE A1

CONTINUOUS BLACK AND WHITE (BW) PHOTOPROCESSING
(STG043)

TYPICAL TASKS		PERCENT MEMBERS PERFORMING
H244	Fill BW processor chemical tanks with BW chemistry	93
H243	Drain or refill BW processor washtanks	92
H251	Perform BW processor shutdown procedures	92
H267	Set or maintain BW processor transport speeds	90
H239	Clean BW processor tanks	90
H237	Clean BW processor rollers	89
H265	Set or maintain BW processor chemistry temperatures	89
H252	Perform BW processor startup procedures	89
H242	Drain BW processor chemical tanks	89
H234	Clean BW processing rooms	88
H263	Set or maintain BW chemistry replenisher rates	88
H262	Set and maintain BW processor water temperature and flow rates	87
H260	Season BW film processor chemical tanks	87
H245	Inspect BW processors prior to startup	86
H236	Clean BW processor interiors using system cleaning solutions	84
H257	Process BW film control strips for machine speed or gamma charts	83
H259	Remove and clean BW processing racks	83
H266	Set or maintain BW processor dryer temperature and humidity	81
H232	Change BW processor chemical filters	80
H254	Position BW processor racks	79
H230	Certify BW processors mechanically	78
H264	Set or maintain BW processor chemical recirculation	77
H231	Certify BW processors sensitometrically	75
H229	Certify BW processors chemically	73
H240	Conduct BW film inspections after processing	73
H233	Change BW processor water filters	73
H250	Monitor quality of processed BW materials at processor takeup reels	71
H235	Clean BW processor film dryers	68
S612	Add chemicals to mix tanks	63
H268	Splice BW control strips to leaders or leaders tabs	63
H241	Cut processed BW materials	62
H253	Perform corrosion control on BW processing equipment	62
H238	Clean BW processor squeegees	61

TABLE A2

CONTINUOUS COLOR PHOTOPROCESSING
(STG038)

	TYPICAL TASKS	PERCENT MEMBERS PERFORMING
L361	Fill color processor chemical tanks with color chemistry	95
L380	Process color film control strips	93
L360	Drain color processor chemical tanks	93
L374	Perform color processor shutdown procedures	90
L386	Set or maintain color processor water temperature and flow rates	88
L375	Perform color processor startup procedures	85
L384	Set or maintain color chemistry replenisher rates	85
L373	Obtain color certification materials	83
L356	Clean color processor rooms	83
L387	Set or maintain temperature of color chemistry	83
L355	Clean color processor rollers	83
L362	Inspect color processors prior to startup	80
L376	Perform corrosion control on color processing equipment	78
L381	Process color processor certification materials	78
L382	Rinse color processor rollers or racks after shutdown	78
L358	Conduct color film inspections after processing	78
L385	Set or maintain color processor transport speed	78
L365	Inspect or change color processor chemical filters	76
S612	Add chemicals to mix tanks	71
L398	Verify color processor speed controls	68
L366	Inspect or change color processor water filters	68
L377	Preinspect and correct color film for physical defects, such as nicks or tears	66
S618	Clean and rinse chemical mixing equipment	66
L352	Clean color processor drying cabinets	66
L372	Monitor quality of processed color materials at processor takeup reels	63
L378	Prepare color film machine certification startups	63
L357	Clean color processor squeegees	61
L359	Cut processed color materials	59
L354	Clean color processor racks	59
S624	Fill chemical mix tanks with water at mix temperature	59
P535	Plot data on process control charts	59
L397	Thread color processors with leaders	54
S623	Dispose of empty chemical containers	54

TABLE A3

MANUAL BLACK AND WHITE (BW) PRINTING (STG052)

	TYPICAL TASKS	PERCENT MEMBERS PERFORMING
K313	Compose or focus BW prints using projection printers	96
K324	Expose BW prints using projection printers	92
K340	Select lenses for BW projection printers	92
K328	Inspect BW prints after processing	92
K309	Adjust easels for proper size prints	88
K327	Insert BW negatives in manual projection printers	88
K343	Sort BW prints by work order	88
K346	Trim BW prints	88
K336	Process BW prints using automatic print processors	85
K314	Construct BW dodging devices	85
K334	Position condensers for BW projection printers	81
K308	Add chemicals to BW print processors	81
K323	Expose BW prints using contact printers	73
K333	Place BW negatives on manual contact printers	69
K320	Determine magnification, reduction, or scale for BW printing	69
K332	Perform preoperation inspections of manual BW projection printers	65
K315	Construct masks for manual contact or projection printers	65
K316	Control BW manual print processing solution temperatures	65
K342	Select sensitized materials for manual BW printing	62
J301	Control BW processing solution temperatures	58
K317	Control densities with BW print dodging devices	58
J300	Clean BW manual processing laboratory equipment	54
K337	Process BW prints using tray processing methods	54
K319	Determine exposure from manually produced BW test strips	54

TABLE A4

CONTINUOUS BLACK AND WHITE (BW) PRINTING
(STG094)

TYPICAL TASKS		PERCENT MEMBERS PERFORMING
I290	Print BW duplicates using continuous printers	93
I298	Thread BW materials on continuous printers	93
I293	Rewind BW negative or positive film using editing tables	93
I292	Rewind BW negative or positive film on continuous printers	93
I282	Clean BW continuous printers	93
I284	Inspect BW continuous printers for tension, tracking, or physical defects	86
I281	Certify BW continuous printers sensitometrically	86
I275	Adjust lamp intensities on BW continuous printers	86
I289	Print BW control flash film	86
Q571	Clean aerial film	79
Q584	Splice head or tail friskets or leaders onto original film	79
Q585	Transport completed materials to production control or operations	79
Q566	Annotate head, tail friskets, or leaders with mission data	79
I294	Select BW raw stocks for continuous printing	79
Q582	Place identification labels on film reels or film cans	71
I653	Remove and replace tacky floormats	71
I286	Perform BW continuous printer startup procedures	71
I285	Perform BW continuous printer shutdown procedures	71
I280	Balance BW exposures using neutral density filters	64
I279	Attach BW certification friskets	64
I283	Expose BW tone control strips on continuous printers	57
Q574	Clean splicing equipment	57
I278	Adjust torque on BW continuous printers	50
Q580	Package classified waste for disposal	50
I297	Test BW continuous printer mechanical operation	50
Q578	Inspect processed film for processing defects	43
I295	Set BW continuous printer exposure parameters	43
I277	Adjust spindles for BW continuous printing	43
T655	Wash hands before entering cleanrooms	43

TABLE A5

MANUAL COLOR PRINTING
(STG099)

TYPICAL TASKS		PERCENT MEMBERS PERFORMING
O432	Compose, focus, or expose color prints	100
O440	Evaluate manually produced color prints	100
O456	Trim color prints	100
O436	Determine exposure for manual color prints	100
N422	Clean color manual processing laboratory equipment	100
N423	Control color film solution temperature during manual processing	100
N428	Process color film manually	100
N425	Load color film into racks, reels, or hangers for manual processing	100
O445	Perform preoperation inspections of manual color projection printers	100
N424	Dry manually processed color films	100
O435	Correct color prints produced manually using color correction filters	100
O441	Evaluate manually produced color test exposures	83
O448	Program color analyzers for manual printing	83
O447	Process color prints manually	83
O451	Select lenses for color projection printers	83
O450	Select and position condensers for color projection printers	83
O449	Select and insert color negatives or positives in manual projection printers	83
O452	Select paper finish according to print textures desired	83
N431	Sort manually processed color film to match work orders	83
O455	Sort color prints by work orders	83
O438	Discard or replenish exhausted color chemistry used in manual processors	83
O434	Control manual color print processing solution temperatures	83
S646	Wash glassware	83
O437	Determine filter packs for manual printers	83
O442	Finish processed color prints manually	67
S629	Mix packaged chemicals	67
O443	Mix color processing kits	67
S618	Clean and rinse chemical mixing equipment	67
S612	Add chemicals to mix tanks	67
N429	Select color film manual processing solutions	67

TABLE A6

BLACK AND WHITE (BW) QUALITY CONTROL
(STG076)

TYPICAL TASKS		PERCENT MEMBERS PERFORMING
P545	Read densities of sensitometric strips	100
P534	Plot data from sensitometric strips	100
P462	Analyze characteristic curves for gamma measurement	89
P461	Analyze characteristic curves for effective aerial film speed (EAFS)	89
P476	Certify BW film startups	89
P496	Determine film speed from sensitometric strips	78
P548	Record densities on forms	78
P497	Determine gamma from sensitometric strips	78
P535	Plot data on process control charts	78
P511	Evaluate sensitometric strips for exposures	78
P502	Determine solution pH using pH meters	78
P503	Determine specific gravity of solutions	78
P522	Measure machine speed with tachometers	78
P464	Annotate AF Forms 1600 (Sensitometry Worksheet) series forms with processing data	78
P504	Enter data on process control charts	78
P490	Determine base-plus-fog from sensitometric strips	78
P533	Place long term control strips in freezers	78
P473	Calibrate densitometers	78
P489	Control chemical stability	67
P463	Analyze process control charts for trends	67
P532	Place control stocks in refrigeration	67
P460	Analyze characteristic curves for average gradient	67
P515	Maintain chemical control charts to insure chemical stability	67
P562	Standardize densitometers using calibrated wedge or check plaque	67
P479	Check temperature indicators against standards	67
P539	Prepare pH meters for operation	67
P481	Compare results of crossover tests to determine new standards	67

TABLE A7

CHEMICAL ANALYSIS
(STG111)

	TYPICAL TASKS	PERCENT MEMBERS PERFORMING
P502	Determine solution pH using pH meters	100
S646	Wash glassware	100
S641	Store unmixed chemicals	100
S612	Add chemicals to mix tanks	100
P503	Determine specific gravity of solutions	100
S623	Dispose of empty chemical containers	100
S614	Calculate corrective additions to chemistry	100
S627	Make corrective additions to mixed chemistry	100
S624	Fill chemical mix tanks with water at mix temperatures	100
S636	Remove chemistry samples for certification	100
P518	Measure chemicals by weight	89
S618	Clean and rinse chemical mixing equipment	89
P563	Standardize pH meters	89
P539	Prepare pH meters for operation	89
S642	Transfer certified mixed chemistry to storage tanks	89
S640	Store mixed chemicals	89
S629	Mix packaged chemicals	89
S616	Calibrate mix tank volumes	89
P523	Mix chemicals using formulas	78
S645	Wash down walls or floors of chemical mix area	78
S622	Dilute mixed chemicals to volume	78
S628	Mix buffer solutions	78
S617	Change chemical mixing water ternal chemical filters	67
S643	Transfer chemistry from stora eplenishment tanks	67
S613	Analyze control charts on chemical analysis	67
S626	Inspect or change silver recovery cartridges	67
S615	Calculate replenisher formulas	67

TABLE A8

RELOCATABLE PHOTO FACILITIES
(STG070)

TYPICAL TASKS		PERCENT MEMBERS PERFORMING
F145	Certify shelter equipment	100
F194	Secure titlers for transport	100
F200	Set up printers	100
F204	Set up titlers	100
F184	Secure printers for transport	100
K313	Compose or focus BW prints using projection printers	100
F167	Perform processor startup procedures after relocation	100
I282	Clean BW continuous printers	100
K323	Expose BW prints using contact printers	100
K324	Expose BW prints using projection printers	100
F176	Remove or install shelter transporters	100
F160	Install shelter passageways after relocation	100
R596	Certify titlers for information content, legibility, and positioning	100
R607	Rewind and return film to cans after titling	100
R589	Adjust titler brackets or spindlers for film widths	100
R595	Certify embosser plates	100
I285	Perform BW continuous printer shutdown procedures	80
F189	Secure shelter passageways for transport	80
F192	Secure shelter water, drain, or air lines	80
F154	Fold or unfold shelters	80
K340	Select lenses for BW projection printers	80
K310	Attach friskets to easels	80
F161	Level shelters	80
F196	Set up film cleaners	80
I287	Place unused BW raw stock in refrigeration	80
F153	Connect or disconnect water, drain, or air lines	80
R590	Adjust titler heat controls	80
K327	Insert BW negatives in manual projection printers	80
R605	Remove or install safety shields	80
R606	Reset titler automatic counters	80
K332	Perform preoperation inspections of manual BW projection	80
K315	Construct masks for manual contact or projection printers	80
I290	Print BW duplicates using continuous printers	80
R588	Adjust takeup or supply torque on titlers	80
R581	Adjust titler pneumatic controls	80

TABLE A9

TECH SCHOOL INSTRUCTION
(STG109)

	TYPICAL TASKS	PERCENT MEMBERS PERFORMING
D93	Administer tests	100
D116	Score tests	100
D112	Maintain training records, charts, or graphs	100
D114	Prepare lesson plans	100
D110	Evaluate training progress of students	100
A18	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	100
D98	Conduct resident course classroom training	75
B35	Counsel personnel on personal or military-related matters	75
D115	Procure training aids, space, or equipment	75
D118	Write test questions	75
B41	Direct maintenance or utilization of equipment	75
B42	Direct maintenance or utilization of facilities or work areas	75
D109	Evaluate training methods or techniques	50
D108	Evaluate training materials	50
C86	Review equipment record forms	50
D103	Develop training aids	50
C74	Evaluate safety or security programs	50
A3	Determine logistics requirements, such as equipment, personnel, and space	50
C85	Perform self-inspections	50
B32	Conduct briefings	50
A5	Develop equipment utilization procedures	50
B50	Interpret policies, directives, or procedures for subordinates	50

TABLE A10

SUPERVISION AND MANAGEMENT
(STG033)

	TYPICAL TASKS	PERCENT MEMBERS PERFORMING
B35	Counsel personnel on personal or military-related matters	89
A18	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	86
A4	Determine work priorities	84
B51	Orient newly assigned personnel	83
C70	Evaluate personnel for compliance with performance standards	81
C63	Evaluate individuals for recognition	81
C88	Write EPRs	81
A15	Establish performance standards for subordinates	79
C90	Write recommendations for awards or decorations	78
A17	Establish work schedules	76
A1	Assign personnel to duty positions	75
A28	Schedule leaves, passes, or temporary duty	75
B54	Supervise Imagery Production Specialists (AFSC 23350)	73
A2	Assign work to sections	73
B50	Interpret policies, directives, or procedures for subordinates	71
A24	Plan work assignments	71
A9	Develop work methods or procedures	68
C78	Evaluate work schedules	67
A3	Determine logistics requirements, such as equipment, personnel, and space	67
C85	Perform self-inspections	67
C71	Evaluate personnel for promotion, demotion, or reclassification	65
D100	Counsel trainees on training programs	63
D95	Assign on-the-job (OJT) trainers	60
C58	Analyze workload requirements	60
E135	Post bulletins or notices	60
B56	Supervise Imagery Production Technicians (AFSC 23370)	59
D101	Determine training requirements	59
B45	Implement quality control standards	57
B47	Implement self-inspection programs	57
A29	Write job descriptions	57
B46	Implement safety or security programs	54
D97	Conduct OJT	54
C65	Evaluate job descriptions	54